ANALYSIS OF THE PERFORMANCE OF THE LESOTHO GRAIN MARKETING SYSTEM

by
NONE MOKITIMI

RESEARCH REPORT NO. 27

Institute of Southern African Studies
National University of Lesotho
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CHAPTER I

INTRODUCTION

1.1 Problem Setting

Crop production is one of the most important agricultural activities in Lesotho. Under crop production, grains take up a prominent position in terms of land and time committed. The major grains grown in Lesotho are maize, sorghum and wheat. During the 19th century, Lesotho was a net exporter of grains which were mainly destined for the mining camps of South Africa. By the turn of the century, grain exports declined such that by the 1930s, Lesotho became a net importer of maize. Exports of wheat continued but this was because there was no commercial wheat mill in Lesotho. Wheat used to be exported in the raw form only to be imported later in a processed form. This however excludes wheat which was ground in ordinary hammer mills to meet household requirements.

The contribution of crops in the agricultural sector is increasingly declining. In 1966, when Lesotho gained independence, crops contributed about 60 percent of the value of agricultural output. This had declined to approximately 22 percent by 1983/84. Between 1980/81 and 1983/84, the share of crops in GDP decreased from 8.2 percent to 3.5 percent.

Grain production in Lesotho is characterized by significant year to year variations. Grain production in Lesotho is low, as a result large quantities have to be imported from the Republic of South Africa (RSA) and others come in the form of food aid. The low grain production is in part a result of low yields and poor production techniques. One other feature of the Lesotho grain industry is the instability of marketing institutions. The Lesotho grain marketing system has evolved from the period when it was being dominated by private traders to the present whereby parastatals are dominating. From the 1800s, private traders sold

consumer goods and purchased agricultural produce, which included grains from farmers. In the late 1940s, marketing co-operatives were established and started dealing in wool and mohair and later, grains and agricultural inputs.

When Lesotho gained independence in 1966, there was a shift in government policy with regard to agricultural marketing in the country. Whereas the colonial government tended to be in favour of private traders, the new government became inclined towards the promotion of public enterprise. Hunter (1987) argues that distrust in private enterprise (because of the great slump of the 1930s) was widespread. The widespread belief was that economic problems could be solved by government intervention in the economy. The other reason was that it was believed that hitherto the producer was confronted with unstable prices, inadequate marketing outlets and exploitative middleman (Tarbox, 1979). To pave way for the establishment of public agricultural marketing institutions, the Agricultural Marketing Act (1967) was passed. This act empowered the Minister of Agriculture to control and set prices for agricultural products. The act also empowered the Minister of Agriculture to regulate the agricultural marketing system through gazettes.

The first public institution established was the Lesotho Farmers Produce Marketing Corporation (LFPMC) in 1971. LFPMC was a government controlled company under which frequent livestock auction sales were held at a number of locations in the country. In 1973, two parastatals were established by acts of parliament. These were the Livestock Marketing Corporation (LMC) and the Produce Marketing Corporation (PMC). LMC took over the functions of LFPMC as the sole agency involved in marketing live animals. It also became involved in the marketing of wool and mohair. PMC became the sole agency under which grains and pulses could be formally marketed in the country.

With the introduction of LFPMC, LMC and PMC, the role played by private traders in the agricultural marketing system diminished.

This is because private traders were barred from the marketing of livestock. With regard to grains and pulses, private traders were no longer allowed to trade in them except as agents for PMC.

The LMC ceased operations in 1978 and its operations were taken over by the Livestock Products Marketing Services (LPMS) which continues to operate today. PMC was dissolved in 1980 and its operations were taken over by Co-op Lesotho. Co-op Lesotho was originally the Basutoland Co-operative Banking Union (BCBU) which was established in 1957 and operated until 1963. Prior to 1974, Co-op Lesotho was mainly an agricultural inputs supplier. The major agricultural inputs handled by Co-op Lesotho included seeds, fertilizer, and pesticides. From 1974 to 1980, Co-op Lesotho also acted as an agent for PMC. From 1981 until recently, Co-op Lesotho has been the dominant formal marketing outlet for grains and pulses. Recently Basotho Canners which processes baked beans among other things has started buying dry beans directly from farmers. Also since 1982/83 producers have been given the option of selling directly to the maize mills and the wheat mill.

1.2 The Need for the Study

Although there have been previous studies on the marketing of grains in Lesotho, most of these studies tend to be descriptive. Such studies include those completed by Marketing Sections, Divisions of Research and Planning, Ministry of Agriculture (1983), Monitoring and Evaluation Team (1985), Wyeth and Moletsane (1984b) and Brokken et al (1986). Tarbox (1979) analysed the performance of private traders and PMC in marketing grains and pulses for the period 1968-1978. Since then many developments have occurred in the Lesotho grain marketing system which need to be analysed and documented.

The analysis of the Lesotho grain marketing system is important for several reasons. Grain products, e.g Papa, form the staple diet of Basotho. A larger percentage of the arable land is

allocated to grain production. Also because of the importance of grains to the diet of the Basotho, the government attaches a high priority to the attainment of self-sufficiency in grain production.

As can be seen from above, the Lesotho grain production/marketing system can be said to be characterized by low and variable production, low productivity and instability of marketing institutions. Because of the importance of grains in the diet of Basotho there is need to determine the right marketing system which will facilitate production and achieve the government objective of attaining self-sufficiency in grain production.

1.3 Objectives of the Study

Overall Objective: To analyse the performance of the Lesotho grain marketing system.

Sub-objectives:
(i) To briefly review the structural changes which have occurred in the Lesotho grain marketing system; the reasons and consequences;
(ii) To develop an appropriate methodology to analyse and to monitor the performance of the grain marketing system;
(iii) To evaluate the performance of the Lesotho grain marketing system based on (ii) above;
(iv) To make policy recommendations for improvements in the Lesotho grain marketing system in order to meet national goals and objectives.

1.4 Approach to the Study

In analyzing agricultural marketing systems, economists usually categorize the research into three stages. These are (a) descriptive studies, (b) diagnostic analysis, and (c)

prescriptive studies. Most previous studies on the marketing of grains in Lesotho have been descriptive. With the descriptive stage completed, diagnostic analysis should be conducted. In the diagnostic stage of marketing research, appropriate performance measures/criteria are developed. After the descriptive and diagnostic analysis, the stage is now set for prescriptive analysis.

In this study the first stage is the development of appropriate performance measures. The second stage is the evaluation of the performance of the grain marketing system against the performance measures developed.

1.5 Scope and Outline of the Study

The study covers the three major grains produced in Lesotho namely, maize, wheat and sorghum. The other major feature of the study is that it concentrates on the formal grain marketing system. Grain production is included in the analysis in order to see its magnitude and how it affects the marketing system. Chapter II provides a brief history of the Lesotho grain marketing system. It also describes the structural changes which have occurred in the marketing system. Chapter III provides the framework for analysing the performance of the Lesotho grain marketing system. In the second part of this chapter, the performance measures applicable to the Lesotho grain marketing system are developed. The next chapter provides the empirical evidence of the Lesotho grain marketing system whereby the performance of the grain marketing system are evaluated against the performance measures developed in the previous chapter. In the last chapter conclusions and recommendations for improvements in the Lesotho grain marketing system are presented.

CHAPTER II

THE DEVELOPMENT OF THE LESOTHO GRAIN MARKETING SYSTEM

2.1 Past Grain Marketing Systems

2.1.1 The Development of Grain Production

When the French Protestant Missionaries first arrived in Lesotho in 1833, they were struck by the central importance of cattle in the Basotho economy. One of them, Casalis wrote that;

> "The tribes of South Africa are essentially pastorals... whoever posses no cattle has no means of existence." (Casalis as quoted in Kimble 1978, p.23).

This is in contrast to Moshoeshoe I's remark in 1838 when he said,

> "My people are not entirely a pastoral people, they depend a great measure on the cultivation of the soil. We cultivate millet, kaffir corn[1], maize, sweet reed, pumpkins, melons, beans and tobacco... our staple produce is kaffir corn". (Ibid. p.23).

It is thought that sorghum and millet were the traditional crops grown by Basotho. Maize is said to have arrived in the country in the first decades of the 19th century. Ashton (1967) notes that maize was known to Basotho before 1820. The introduction of maize was apparently through Batlokoa before Basotho moved to Thaba-Bosiu. The other hypothesis is that maize came to Lesotho through Matebele (Nguni) (Moleko, 1976). It is thought that maize was introduced by the Portuguese settlers in the east coast of Southern Africa which is mostly inhabited by the Nguni. By the time the missionaries arrived in Lesotho, maize had become the second staple to Basotho. By the turn of the century the exports of maize far exceeded those of sorghum (Appendix A).

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[1] This refers to sorghum

Wheat was introduced in Lesotho by the missionaries. They were struck by the amount of work involved in the cultivation of sorghum and argued that wheat demanded less labour. Furthermore, wheat was strongly in demand by white farmers in South Africa and traders. It was also argued that Basotho could earn cash income from wheat production and thus buy European manufactured goods. In most cases wheat was grown exclusively for exchange.

By the end of the 19th century, Lesotho grain was exported to Kimberley, the Witwatersrand and the Orange Free State. However, Lesotho grain production suffered a severe blow towards the end of the century and production began to decline. Kimble (1978 and 1985), Murray (1980) and Moleko (1976) have dealt with the reasons which led to the decline of grain production in Lesotho. The reasons include the introduction of taxes to force Basotho to work in the mines in RSA, the taxing of grain from Lesotho to the gold fields and certain areas of RSA which was contrary to the spirit of the 1891 Customs Union Agreement, and the importation of cheap grain from the highly capitalized agriculture of the American mid-west and Australia.

Export of grain from Lesotho fluctuated with disasters like drought. The early 1930s became very disastrous to grain production in the country. This was a result of the coincidence of the Great Depression with an exceptional drought of 1932/33. Wheat production survived and recovered but maize did not. Since that time, Lesotho has been a net importer of maize.

2.1.2 Private Traders

It appears Basotho were already trading with neighbouring African nations long before the arrival of the missionaries in 1833. Basotho exchanged animal products, handicrafts and natural resources with other neighbouring African nations. Formal trading in Lesotho came with developments in the Cape Colony when Dutch settlers moved into the interior of the sub-continent. The movement of Dutch settlers from Cape Colony in 1836 into the

interior meant that itinerant traders accompanied them. The Voortrekkers were mainly pastoralists which meant they did not cultivate grain. This meant that there was a great demand for grain by the Voortrekkers which was met by Basotho grain.

The one factor above all others, however, which contributed to the development of trading in Lesotho was the opening up of the diamond fields at Kimberley in 1867, an area entirely incapable of supporting the large numbers of prospectors who poured into it (Walton, 1958). Kimble (1978) argues that the sudden convergence of tens of thousands of people in a barren and hitherto rarely frequented part of South Africa created an unprecedented demand for foodstuffs. The burst in demand from the diamond fields and other places led to an upward tendency in grain prices. In 1869 a muid[2] of wheat sold for 22s 6d and a muid of maize or sorghum for 12s 6d - 14s 6d. By 1874 the same quantity of wheat sold for 40s, maize for 17s-20s and sorghum for 18s-20s (Kimble, 1978). Basotho responded to the demands of the mining camps by increasing grain and livestock production. Murray (1981, p.11) has written that

> "Basotho bought ploughs, planted assiduously and sold grain to meet the needs of the distant mining camps. They responded with such zeal and success that on the other hand the missionaries expressed anxiety lest their material prosperity endanger their spiritual progress."

From the late 1800s travellers to Lesotho noted the intensity of cultivation throughout the country.

> "Today hundreds of wagons penetrate and traverse (the country-side) in every direction collecting the grain which the country produces. The cultivation of cereals has markedly increased and the plough has almost everywhere replaced the native hoe." (Rolland as quoted in Kimble 1978, p.200).

In the 1870s, evidence suggests that the production and sale of grain was the most important source of income to Basotho. In

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[2] A muid was a standard bag in which grain was sold and purchased and weighed approximately 200 lbs

1880, the Acting governor's agent, Emile Rolland, pointed out that the income earned by Basotho from the sale of grain was five times that earned from labouring and transport - riding put together (Kimble, 1985 and Murray, 1980).

Most traders who established themselves in Lesotho were of British origin. Most of these traders had probably left England to make fortunes in the Kimberley diamond mines. When they got to Kimberley they realized the need and opportunity for providing the mining camps with food. They then started buying grain and livestock from Basotho and sold them in the mining camps.

Before the promulgation of formal trading regulations in 1871, entry into trading was relatively easy. A trader who wished to settle in any place had first to get the sanction of the local chief to put up a store. This obtained, he applied to the government for a licence and when this was issued he was assigned a small piece of ground on which to build and could start trading (Selwyn, 1980). Because of the ease of entry into trading, Hunter (1987) has postulated that during this period the trading structure was highly competitive.

In the early years of trading in Lesotho, traders established fixed trading stations around mission stations. By 1854, two resident traders had established themselves in Morija (Germond, 1967). Other traders had established themselves around the other mission stations of Beersheba, Mekoatleng and Thaba-Bosiu. At the trading stations, traders both sold consumer goods and bought farm produce. In addition to these, traders offered other services which included provision of credit, milling services, acting as government agents in the distribution of famine relief, seed and fertilizer and providing postal services (Stutley, 1960).

With regards to grains, traders purchased in bags which were then called muids. Traders started selling grains by weight from 1919 as a result of farmers complaining about Thabana-Morena

bags. The Thabana-Morena bags involved traders filling bags with grains until making a sort of a pyramid. Traders were not satisfied until some grain began to drop on the ground. Having brought the overfilled bags of grain, they afterwards filled their bags to the proper weight of 200lbs. Out of two Thabana-Morena bags traders got three 200 lbs bags. Farmers began to protest the practice of Thabana-Morena bags and in 1916 the matter was taken up by the Basutoland National Council (BNC). In a meeting held at Maseru on 8th February, 1919, between the Basutoland Chamber of Commerce (BCC) and the BNC, the problem of Thabana-Morena bags was resolved. It was resolved with Proclamation No.28 of 1919 (Purchase and Sale of Grain by Weight) which was further refined by Proclamation No.49 of 1920 (Lesotho National Archives (LNA) File S3/26/12/17). The other complaints against traders dealings in grains, were that traders took advantage of people's need to exchange their produce rapidly in order to pay tax. In a letter from Chief Masupha to the High Commissioner, it is stated that;

> "When the time for the payment of hut tax come the traders buy the cattle and grain of Basotho at a very low price and at the time of harvest the traders buy the crops at a very low price, but the traders sell cattle and grain to Basotho people for high prices." (LNA, S3/22/2/2).

Towards the end of the 19th century when grain prices fluctuated as a result of climatic conditions and imposition of tariffs by the RSA on Lesotho grain, Basotho farmers blamed traders. The main complaint by farmers against traders involved prices. Basotho could not understand why, when they had plentiful supplies of grain, traders purchased it at very low prices whereas in times of scarcity they had to pay high prices to traders. The Chiefs felt that they were being dealt with unfairly and ordered a complete boycott of all stores. The Chiefs also forbade people to sell certain necessities of life such as milk, fuel etc to Europeans. When the new wheat crop was harvested, the sale of it was also forbidden by the Chiefs. This was more prevalent in the district of Berea which was ruled by Chief Masupha.

On the other hand, traders argued that Basotho did not understand the laws of demand and supply. They also argued that in times of food shortages they had to import grain at high cost and did not make much profit from the imported grain. Traders also argued that the imposition of tariffs on Lesotho grain meant that they had to buy grain from farmers at low prices so as to compete with the cheap American and Australian imported grains.

Before the invention of motor vehicles, traders purchased grain from farmers and transported the grain in ox-wagons and pack animals. Some traders owned oxen and pack animals while others contracted transport operators.

Other traders' marketing practices have been discussed in full in Hunter (1987), Selwyn (1980), Rantheba (1985) and Mokitimi (1988) and Hunter and Mokitimi (1990). These studies indicate that traders had both monopoly and monopsony power. This is because in the market in which farmers bought consumer goods they faced a single seller, a monopolist. In the market in which they sold farm produce, they faced the same single trader, a monopsonist. The operations of traders in the grain marketing system were legislatively curtailed in the early 1970s when public corporations (parastatals) were entrusted with the functions of grain marketing.

2.1.3 Co-operatives

Co-operatives in Lesotho began in 1948 when the first Registrar of Co-operatives was appointed (Biggs, 1964). Information on the events which led to the establishment of co-operatives is scanty but Ashton (1967) reports that the establishment of co-operatives was encouraged by the Roman Catholic Bishop, J.C. Bonhomme. The first co-operatives were wool and mohair marketing co-operatives and were primarily established because producers felt that traders were costing too much or that the services which they provided were inadequate (Biggs, 1964). Farmers thought by eliminating the middlemen (traders), marketing costs could be

lowered which would result in a gain to them in the form of higher prices. Co-operatives were also established to break traders' monopoly and monopsony power which prevailed at the time.

Marketing co-operatives handling grains were known as Agricultural or Farmers' Societies. By 1951, four Agricultural or Farmers Societies were in operation. These agricultural societies operated as consumer and supply societies, i.e they purchased consumer goods and agricultural implements and inputs on behalf of their members. The major activities of agricultural societies was retail trading in consumer goods and the supply of agricultural inputs rather than purchasing farm produce. Stutley (1960) has argued that agricultural societies were not co-operatives but "buying clubs".

In order to assist agricultural societies with the purchase and storage of crops, the Basutoland Co-operative Banking Union (BCBU) was established in 1957. The functions of BCBU were to finance primary societies in the marketing of primary produce, provision of credit and the supply of fertilizer and other agricultural requisites. Thus the BCBU provided the primary societies with credit with which they could purchase members' farm produce. In September, 1960 the BCBU in conjunction with the Farmers Co-operative Union of South Africa (FCU) formed the Basutoland Co-operative Federation (BCF). The BCF was established mainly for the purposes of produce marketing and distribution of agricultural requisites for farmers. The BCF was only operational for one year after which it was liquidated and its functions taken over by the BCBU. Biggs (1964) reports that after this, the situation became thoroughly confused. The BCBU operated a produce marketing section in place of the BCF but the FCU gave credit to and marketed produce for the marketing societies of the country. Thus rendering the produce marketing section of the BCBU redundant.

In September 1963, the BCBU encountered financial problems and

its registration was cancelled. The operations of the BCBU were taken over by the Finance and Marketing Co-operative Union of Basutoland (known as CUB). The CUB, however, could not be regarded as a true co-operative in the fullest sense because the government became a member and by virtue of its financial interest, virtually exercised control.

Table 2.1: Number of Agricultural Societies and Membership

Year	Agric. Societies	Membership
1951	4	-
1952	5	-
1953	7	812
1954	7	845
1955	9	848
1956	7	964
1957	11	-
1958	6	-
1959-63	NA	NA

Source: Basutoland Colonial Annual Reports.

The above narrative indicates that after co-operatives were established they encountered problems such that by the early 1960s, they collapsed. Biggs (1964) lists the following reasons as being the causes of the collapse of the co-operative movement in the country:

(i) Mis-management
(ii) Over-payment of staff
(iii) Farm produce prices set too high which resulted in societies incurring financial loses
(iv) Misappropriation of funds.

It was earlier argued that one reason co-operatives were established was to break traders' monopoly and monopsony power. The establishment of co-operatives posed the first real competition traders had ever experienced. Traders were determined to hit back at the co-operatives with a few effective "weapons" at their disposal (Stutley, 1960). Biggs (1964), the Basutoland National Council (1964), Hunter (1987) and Mokitimi (1988) present evidence on the various "weapons" used by traders

to counteract co-operatives' competition. These "weapons" include increasing farm produce prices to be higher than the ones offered by co-operatives, refusing to sell consumer goods to farmers unless farmers sold farm produce to them and refusing to offer farmers credit. All these reasons led to the collapse of the co-operative movement in the country such that by 1966, when Lesotho gained independence, there were few co-operatives in the country. At present there are very few farm produce marketing co-operatives in the country, most of which are not functional. The only co-operatives which are active and still growing are Wool and Mohair Growers' Associations. The collapse of the co-operative movement meant that traders continued to be the dominant force in the Lesotho agricultural marketing system.

2.1.4 The Produce Marketing Corporation

In an attempt to pave way for a new agricultural marketing system for the country in anticipation of gaining independence, the BNC in 1964 held hearings on the then existing livestock and agricultural produce marketing system. In these hearings Basotho came out very strongly against traders' involvement in the agricultural marketing system. Most Basotho civil servants wanted government involvement in the agricultural marketing system. Hunter (1987) argues that distrust in private enterprise (because of the great slump of the 1930s) was widespread. The widespread belief was that economic problems could be solved by government intervention in the economy. The other reason was that it was believed that hitherto the producer was confronted with unstable prices, inadequate marketing outlets and exploitative middleman (Tarbox, 1979).

One year after Lesotho gained independence, the Agricultural Marketing Act (1967) was passed. The major objective of this act was to regulate the agricultural marketing system in the country. The specific purposes of this act are to;

(a) ensure that each producer is paid prices which adequately reflect the value of the quantity and quality of the

product in Lesotho and on external markets,

(b) improve the value of each product in Lesotho and on external markets by adequate preparation, processing and marketing,

(c) ensure that products in Lesotho are of good quality, fairly priced and accurately represented,

(d) obtain adequate information to assess activities relating to production, preparation, processing and marketing of products and supplies; and

(e) control and improve the exportation and importation of products and supplies; and in particular to -

(i) ensure that exportation and importation of products and supplies occur at times, in quantities and by means most beneficial to Lesotho; and

(ii) prohibit the importation of products and supplies which are unsafe or inappropriate for the function for which they are to be sold.

In addition, the act empowered the Minister of Agriculture to regulate prices: "The Minister may prohibit any person who is dealing in the course of trade... from purchasing or selling at a price other than a fixed price or a price calculated in accordance with a specified basis". The Agricultural Marketing Act was followed by series of gazetted regulations which fixed prices and margins and controlled the exports of wheat and maize. The Agricultural Marketing - Price Control Regulations of 1973 were the first to stipulate price ceilings for bread flour, sifted meal, and maize meal.

In 1973 the Produce Marketing Corporation (PMC) was established under Act No.14 of 1973. The establishment of PMC was a result of the government policy that agricultural marketing in the country be carried out by the public sector. Government's policy was to carry out farm marketing as a public sector activity because traders were seen to be exploitative and because of the need to maintain marketing services to remote communities where

private traders may not maintain at a fair price (FAO, 1980). The functions of PMC were as follows:

(a) to advise the Minister in all matters related to the production, preparation, processing and marketing of agricultural products and the marketing of agricultural supplies;

(b) to regulate and control the marketing process for commodities and products as indicated by the Minister in pursuance of the Agricultural Marketing Act 1967;

(c) to buy commodities and products and arrange for their sale;

(d) to secure the most favourable arrangements in respect of the country's economy for the purchase of commodities and products; their preparation, transport, storage, processing and sale;

(e) to introduce quality standards and grading systems to which price differentials shall be related, and

(f) to secure domestic supply in relation to demand so as to stabilize as far as possible producer and consumer prices throughout the year and between different crop years.

The commodities handled by PMC included grains and their products, pulses, fruits and vegetables. There was also a clause in the Act indicating that PMC can handle any other product designated by the Minister by notice in a gazette.

PMC operated through a network of agents. The agents were often traders who had previously dealt in the buying and selling of agricultural products on their own and area-based development projects. With the introduction of PMC, traders could only buy and sell farm produce as agents of PMC. The largest buying agents were Co-op Lesotho and the Thaba-Bosiu Rural Development Project. In 1974/75, PMC had 38 agents and this increased to 43 in 1975/76. The number of PMC's agents further increased to 56 in 1976/77. It should be noted that the number of marketing

outlets was higher because some of the agents had multiple stations, e.g Frasers and Co-op Lesotho.

To enable agents to purchase produce, PMC provided them with weekly cash advances which were based on estimated quantities to be purchased during the week. At the end of the week (Friday), the cash advance was reconciled with quantities of produce actually purchased. Every Friday PMC credited the agents with handling charges and commission. In 1974/75, the agents' commission for wheat was M2.00 per tonne and this works out to be 3.3 percent of the producer price while the commission for beans was 4.5 percent of the producer price. For maize and sorghum the commission was "negotiable".

In the period 1975-78, PMC purchase prices for grains were set at or below RSA floor prices and sales to the PMC by farmers were insignificant. In 1978/79, PMC purchase prices were raised above RSA producer prices and this resulted in small deliveries by farmers (Table 2.2). This was achieved at a cost of large financial losses to the PMC because of the low resale prices and high handling costs. PMC wheat purchases increased rapidly in 1977/78 because the government's Co-operative Crop Production Programme (CCPP) which operated a share-cropping service with farmers delivered all its wheat to PMC.

Table 2.2: Quantities of Crops Marketed by PMC (mt)

Year	Wheat	Maize	Sorghum	Beans
1975/76	43	-	-	4 299
1976/77	361	-	-	3 185
1977/78	2675	-	-	1 637
1978/79	3129	90	69	516

Source: FAO (1980).

PMC folded in 1979 because of several problems which included:

(a) lack of skilled management,

(b) insufficient operating margins,

(c) no rational pricing structure for crop purchases;

(d) lower volumes of marketed throughput than planned.

2.1.5 Area-based Development Projects

Before Lesotho gained independence, there were several area-based development projects, such as Tebetebeng. After independence, the Lesotho Government began to realize the disappointingly low level of farmer response to rural development programmes. It was thought that rural development programmes failed because they did not yield benefits to farmers immediately. This recognition influenced the government to seek international and agency funding for area-based crash projects aimed at modernising agriculture and producing visible results within a relatively short period.

(a) Leribe/Khomokhoana Project (1975-1980).

Khomokhoana Rural Development Project (KRDP) began operations in 1970 as the Leribe Pilot Project (LPP) financed by the United Nations Development Programme (UNDP). The Pilot Project was located near Hlotse in Leribe district. It was designed to demonstrate the impact on production and the income of an integrated approach to agricultural development within the existing land tenure system. It concentrated on the application of relatively simple packages of inputs, including mechanisation, improved seeds, insecticides, fertilizer and extension services. LPP was phased out in 1975 and incorporated into a much larger agricultural project in the Khomokhoana catchment area.

The enlarged project, known as the Khomokhoana Rural Development Project, was financed by the Swedish International Development Agency (SIDA) through the FAO. The goal of KRDP was to intensify crop and livestock production through improved systems of credit, inputs, and marketing facilities, integration of conservation works with agricultural production and involvement of farmers (Kingdom of Lesotho, 1976). KRDP was terminated in mid-1980, at the end of the planned funding period.

KRDP was a designated agent of PMC in the marketing of grains

and pulses but only purchased pulses on behalf of PMC. It never handled any maize and sorghum because it appeared farmers had no surpluses. Wheat was usually sold by farmers direct to co-operatives in the RSA, notably the Ficksburg Co-operative. KRDP purchased 231 tonnes of beans in 1976 and 93 tonnes of beans and 0.9 tonnes of peas in 1977. The project marketed potatoes independently.

(b) Senqu River Agricultural Extension Project (1974-1976)

The Senqu River Agricultural Extension Project (SRAEP), which covered the two southern districts of Mohales Hoek and Quthing, began operations in 1974. The project was also funded by the UNDP. The objectives of the project were to assist the Government of Lesotho in meeting its national objective of raising agricultural production above subsistence levels and to promote cash cropping. The project ended in 1976.

Like KRDP, SRAEP acted as an agent of PMC in the marketing of farm produce. Between 1974 and 1977, SRAEP purchased 129 tonnes of beans, 258 tonnes of wheat and 4.5 tonnes of peas on behalf of PMC.

(c) Thaba-Bosiu Rural Development Project (1973-1979)

The Thaba-Bosiu Rural Development Project (TBRDP) began in 1973 and was jointly funded by the World Bank (IDA) and the United States Agency for International Development (USAID). The objectives of TBRDP included to increase the income derived from crop and livestock production, to control erosion and provide data for the preparation of similar rural development projects in other areas. The project ended in 1979.

Under the project, some 70 Village Distribution Points (VDPs) supplied by 7 project operated stores were established. A VDP was a store operated by a local villager on a commission basis and mostly sold farm inputs to farmers. Also some 74 km of

access roads were constructed in order to facilitate the supply of farm inputs and the marketing of produce. TBRDP was one of the most important PMC's agents in terms of produce handled. For example, of the 43 tonnes of wheat handled by PMC in 1974/75, 33 tonnes were from TBRDP.

(d) Basic Agricultural Services Programme (1977-1981)

The strategy of agricultural development in the mid-1970s was centred on area-based projects. Most, if not all, area-based projects did not have a significant impact on agricultural development in the country. It was then realised that area-based projects had several limitations which included lack of co-ordination with government programmes as they were in most cases autonomous. It was then decided to absorb these projects into the planning and administrative structure of the Ministry of Agriculture and to pursue programmes with a wide and more diffused impact. It was within this context that Basic Agricultural Services Programme (BASP) was conceived and implemented. The programme was to involve the development of physical infrastructure such as roads and stores, the provision of inputs, credit, extension and produce marketing facilities. Unlike the previous area-based projects, BASP covered the area encompassing the Lowlands i.e from Butha-Buthe to Quthing districts. It was divided into 6 blocks. Block I was funded by the United Kingdom, Block II and III by the Federal Republic of Germany (GTZ), Block IV and V by the European Economic Community (EEC) and block VI by the World Bank.

With regard to marketing facilities, BASP operated VDPs, lock-up and unit level stores. Some VDPs were inherited from TBRDP and some were built in places where TBRDP did not operate. A lock-up store sold farm inputs and implements and also acted as a marketing outlet for farmers' produce. Each lock-up store operated 2 times a week and the other days was closed hence the name lock-up store. The lock-up stores were operated by a team of people who moved from one lock-up store to another. Each team

operated 3 lock-up stores. Unit level stores were larger stores than the VDPs and lock-up stores. Unit level stores carried a more complete line of farm inputs and in addition acted as marketing outlets for farmers' produce. Each unit level store served several lock-up stores in a given area.

(e) Co-operative Crop Production Programme (1976-1980)

In 1976, the Ministry of Agriculture undertook to share-crop large areas of arable land in the Lowlands for the growing of winter wheat. This project was known as Co-operative Crop Production Programme (CCPP) and based on the traditional concept of share-cropping, with the government and farmers as partners. The objective of CCPP was to increase the country's winter wheat production by exploiting the large proportion of land which usually lies fallow in winter. The government supported all expenses including seeds, ploughing, planting, discing, harrowing, fertilizer and combine harvesting. Land-holders were responsible for non-mechanised operations which included weeding and threshing where combine harvesters could not reach the fields. South African farmers were involved as contractors for the various mechanised operations. Because the government in most cases incurred all production and harvesting costs, the programme was christened Ahlama U-je (manna has fallen from heaven) by farmers (Phororo, 1979). After harvest, the wheat was then divided equally between the government and land-holders. The government share was sold to PMC. As previously noted, PMC wheat purchases increased in 1977 as a result of CCPP's wheat deliveries.

The project design was that 12,000 ha would be planted, but only 3,100 ha were involved in the scheme. CCPP encountered problems which included a shortage of competent staff to manage the project and this meant that contractors were overpaid, excessive fertilizer used, and seeding rates exceeded. There was also the problem of storage for the harvested grain. The government reportedly sustained losses of between M300,000 and M400,000.

The programme was modified to provide for cost sharing between government and farmers, except for the ploughing costs, which were to be contributed by government as a subsidy. This modification did not prevent the programme from incurring further substantial losses. In mid-1979, following much criticism from donors, the programme was prematurely terminated.

(f) The Food Self-Sufficiency Programme (1980-Present)

CCPP was regarded as a failure and was wound up and replaced by the Food Self-Sufficiency Programme (FSSP) in 1980. Initially FSSP was financed by Republic of China (Taiwan). The funding was to be for five years. The objectives of FSSP were outlined as:

(i) to achieve self-sufficiency in maize and sorghum production within a period of 5 years,

(ii) to achieve full utilization of government-owned farm machinery and equipment, and

(iii) to initiate agricultural production based on village co-operatives.

It was intended that in the first year, the programme would aim at demonstrating the reliability of the technology used and that, therefore, all inputs costs would be borne by it. This practice also led to FSSP being christened Ahlama-U-je like CCPP. After harvesting, the output was to be shared equally between the project and farmers. In the second year, farmers were to pay half of the production costs and receive three-quarters of the output. From the third year onwards, all costs were to be borne by farmers.

Table 2.3: FSSP Grain Production (mt) and Number of Farmers Participating (1980/81-1986/87).

Year	Wheat	Maize	Sorghum	Number of Farmers
1980/81	767	13 922	469	13 878
1981/82	4 412	24 945	105	27 418
1982/83	7 656	21 000	647	28 782
1983/84	7 656	9 986	1 005	18 954
1984/85	-	37 563	-	8 924
1985/86	-	-	-	9 989
1986/87	-	-	-	10 906
1987/88	-	-	-	12 410

Source: FAO (1983) and TOU.

(g) Lessons From Development Projects and Programmes.

The record of all the area-based development projects and programmes were disappointing. The projects carried out demonstrations of crop production using "improved" practices and purchased inputs. In most cases these cropping systems incurred heavy losses in unfavourable years and as a result there was no uptake by farmers outside the demonstration areas of the high input, high technology methods which were being advocated. None of the projects achieved their stated goals, and while there were many accomplishments, the projects were actually failures if judged against their stated goals. The reasons for the failure of the projects include:

(i) The goals themselves were over-optimistic both in terms of what was likely to be achieved in increasing yields and in acceptance rates by farmers;

(ii) The hazards of farming in Lesotho were consistently underestimated;

(iii) Crop losses resulting from projected soil erosion tended to be over-estimated;

(iv) The cost and effort required to construct physical earthworks to control erosion were out of line with the benefits perceived by farmers;

(v) Integrating autonomous projects with a high level of expatriate staff into district and national organisations

proved difficult;

(vi) The projects were based on the false assumption that the bulk of the rural population were committed farmers who were looking for methods of investing additional resources and labour into more intensive farming systems.

2.2 Present Grain Marketing System

The Lesotho grain marketing system is usually categorised into formal and informal marketing systems. The informal marketing system is concerned with the selling and buying of grain amongst neighbours and grinding at traders' hammer mills without going through official marketing channels. Most of the locally produced grains are traded in the informal market. This is more pronounced in sorghum because very little of it goes through formal channels. In the informal market, farmers usually deliver the grain to traders who grind the grain for a charge in their hammer mills and roller mills. The informal grain marketing system seems to be complex and very little is known about it.

The present Lesotho formal grain marketing system is dominated by Co-op Lesotho which is a parastatal designated to purchase farm produce and sell agricultural inputs. Very few traders are involved in the grain marketing system. The other major players in the Lesotho grain marketing system are the maize mills and the wheat mill. The formal marketing channels for maize, wheat and sorghum are presented in figures 2.1, 2.2 and 2.3 respectively.

2.2.1. Co-op Lesotho

In 1963, the Finance and Marketing Co-operative Union of Basutoland (CUB) took over the operations of the Basutoland Co-operative Banking Union (BCBU) which had become insolvent and was liquidated. CUB took on the name Co-op Lesotho in 1972. In 1980, Co-op Lesotho and PMC were merged and came to be known as Co-op Lesotho LTD.

Co-op Lesotho is a co-operative registered on 2nd February 1981 under the Co-operative Societies Proclamation of 1947 as amended. It has eight members viz;

(i) Government of Lesotho.
(ii) Lesotho Poultry Co-operative Society Ltd,
(iii) Lesotho Co-operative Handicrafts LTD,
(iv) Lesotho Co-operative Credit Union League LTD,
(v) Mafeteng Co-operative District Union,
(vi) Leribe District Co-operative Union LTD,
(vii) Phela-U-Phelise Multipurpose Co-operative Society LTD
(viii) Lesotho Handspun Mohair Co-operative Society LTD.

The Government of Lesotho holds 98 percent of the share capital. Although Co-op Lesotho is a registered co-operative, the government control of the organisation by virtue of its financial contribution makes it a parastatal.

According to the by-laws of Co-op Lesotho, its main functions are:

(i) to operate as a marketing outlet for farmers'produce of food grains and pulses;
(ii) to operate as a commercial trading organisation, dealing mainly in agricultural inputs but also in other items as found profitable;
(iii) to serve as a co-operative apex organisation promoting the development of primary societies.

Co-op Lesotho, in order to be operational during the agricultural off-season, deals in other items. The other items consist of food products such as maize and wheat meal, coal, building materials and malt packaging. It also operates a recently started insurance agency.

Co-op Lesotho, at present, owns approximately 43 depots spread throughout the country but mainly concentrated in the Lowlands. It also owns two yards, the maize yard at Maputsoe and the coal yard at Maseru Railway Station (Industrial Site). The depots are divided into three regions: north, central and south (Table 2.4).

Table 2.4: Location of Co-op Lesotho Depots by Region (1986)

Northern	Central	Southern
Maputsoe	Maseru	Mohales Hoek (main)
Mokomahatsi	Mazenod	Mohales Hoek (sub)
Moletsane	Coal Yard (Maseru)	Mt.Moorosi
Letseng	Teyateyaneng	Quthing
Mokhotlong	Ha Ntsi	Mafeteng (main)
Makhiseng	Mantsonyane	Mafeteng (sub)
Butha-Buthe	Pilot	Ntjepeleng
Leribe	Thaba Tseka	Matelile
Khabo	Mahloenyeng	Koti-Sephola
Mahobong	Sefikeng	Tsoloane
Pitseng	Semonkong	Mpharane
Peka	Thuathe	Alwyns Kop
Liqhobong		Qacha's Nek
Maize yard (Maputsoe)		Sehapa
		Thabana Morena
		Sehlabathebe
		Kolo

Source: Ronsholt (1984) and Co-op Lesotho

The number of Co-op Lesotho depots has been fluctuating mainly because some of them have been taken over by area-based development projects and some have been closed as they have been found not to be viable (Table 2.5). The number of depots increased in 1982 as a result of the merger of Co-op Lesotho and PMC. In October 1984, twelve depots were closed down because they were found not to be viable and a further two were taken over by the Phuthiatsana Project.

Table 2.5: Number of Co-op Lesotho Depots (1981-1988)

Year	Number of Depots
1981	38
1982	56
1983	58
1984	57
1984 (October)	43
1985	43
1986	43
1987	43
1988	43

Source: Ronsholt (1984) and Co-op Lesotho.

Co-op Lesotho purchases grain through its depots. After the grain is purchased from farmers, it is taken by road transport to Maseru or Maputsoe. In Maseru, maize is delivered either to the Maseru Roller Mills (MRM) or Lesotho Maize Mills (LMM). Before 1986, most of the maize was delivered to Lesotho Milling Company (LMC) in Maputsoe as the LMM was not operational then. In Maputsoe the maize is stored at Co-op Lesotho maize yard before being delivered to the mill. The maize yard is adjacent to the mill. The maize is stored at maize yard because the mill's silos can only store 5,000 tonnes at a time. At the maize yard, bagged maize is stored outdoors under tarpaulins which is very expensive and creates high losses especially when in some cases the maize is stored for long periods. In order to avoid storing maize at the maize yard, Co-op Lesotho usually regulates the purchase of maize at the depots and this leads to dissatisfaction among farmers as they cannot sell maize when they wish to. Before 1982/83, farmers were not allowed to deliver maize directly to the maize mill but since that time they have been allowed to deliver directly to the mill and by-pass Co-op Lesotho. This came about as a result of government's policy that Co-op Lesotho undertake the marketing of FSSP output. This increased Co-op Lesotho's handling of maize from approximately 1,000 tonnes to 10,000 tonnes per season on the average (Ronsholt, 1984). This resulted in problems for Co-op Lesotho as it did not have suitable facilities for storing, grading and handling of such quantities and furthermore, no capital was provided to allow Co-op Lesotho to invest in the needed facilities. Wheat is delivered to the Lesotho Flour Mills (LFM) which is located in Maseru. Only farmers with 8 bags and more can deliver directly to the LFM otherwise they have to market through Co-op Lesotho and traders.

2.2.2. Maize Marketing Channels

Maize marketing channels in Lesotho consist of farmers, area-based projects, maize mills, Co-op Lesotho, traders, wholesalers, retailers and consumers (Figure 2.1). Individual farmers can

deliver maize directly to the mills or deliver to Co-op Lesotho and traders who then deliver to the mills. Usually farmers located nearer to the mills prefer to deliver maize directly to the mills while those located further away usually deliver to Co-op Lesotho and traders. Area-based projects and traders can also deliver directly to the mills or Co-op Lesotho. Co-op Lesotho delivers maize to the mills and sometimes wholesalers and retailers buy maize from Co-op Lesotho. It is common for retailers to purchase maize from Co-op Lesotho and sell it in the Mountains where there is not much maize production because of climatic conditions.

The first maize mill in Lesotho was built in 1973. Before 1973, most of the maize produced in Lesotho was delivered to private traders who provided gristing services for a charge. Some of the maize was milled in RSA. The Lesotho Milling Company (LMC) began operations in 1973. It is owned by the Lesotho National Development Corporation (LNDC) which is a parastatal and Tiger Oats Company from the RSA. LMC annual milling capacity is 48,000 tonnes while its storage capacity is 5,000 tonnes.

In 1974/75, LMC operated as an agent of PMC in importing maize and maize products. Under the Import of Maize and Maize Meal Regulations of 1975, PMC was pronounced as the sole importer of maize and maize products. Maize and maize products import control was undertaken because LMC operated below capacity as a result of competition from RSA milling companies and it was also found that significant quantities of degermed maize meal, which has little nutritional value, were being imported into Lesotho. Under the import regulations, the importation of degermed maize meal was prohibited. Also under the regulations, anyone wishing to import maize and maize products had to apply to LMC. LMC first assessed if it could supply the applicant and if not the applicant was given an import permit to purchase maize and maize products in RSA. At present import permits are handled by the Department of Economics and Marketing of the Ministry of Agriculture.

The Maseru Roller Mills (MRM) has been gristing and distributing maize meal since the 1930s and has recently been expanded to mill maize meal. It is now a subsidiary of LMC. It has a storage capacity of 1,000 tonnes and its milling capacity is 3.5 tonnes per hour. The Lesotho Maize Mills (LMM) began operations in 1986. It is a subsidiary of the Lesotho Flour Mills (LFM). Its silos' storage capacity is 30,000 tonnes and its milling capacity is 50,000 tonnes per annum.

At present LMC, MRM and LMM are the only importers of maize and maize products into Lesotho. Before the establishment of LMM and the expansion of MRM, LMC was only able to serve the lowlands districts. This means there was no maize and maize products import control in the mountain districts of Mokhotlong and Qachas Nek. Traders in Mokhotlong purchased maize meal in Natal while those in Qachas Nek purchased in Matatiele (Cape Province). In 1988, maize and maize products import regulations began to cover the whole country and the three maize mills now supply the whole country including the mountain districts.

The examination of quantities of maize marketed through formal channels indicates that little quantities do so (Table 2.6). Marketing Sections (1983) concluded that on the average 6 to 7 percent of the maize finds its way through formal marketing channels. The Monitoring and Evaluation Team (1985) estimated that in 1982, approximately 21 percent of the maize crop was marketed through formal marketing channels. It has been argued that 1982 was a "high water mark" in the percentage of maize marketed through formal channels as this was the year FSSP first marketed large quantities of maize.

Most of the locally produced maize purchased by the mills is delivered directly to the mills by farmers. For the three years i.e. 1986-1988, MRM purchased 99 percent of the local maize directly from farmers while LMC purchased 95 percent. The situation is a bit different with LMM. In contrast to the other mills, it seems LMM purchases about equal amounts from farmers

and Co-op Lesotho. For instance in 1988, it purchased 51 percent of the maize directly from farmers and 49 percent from Co-op Lesotho.

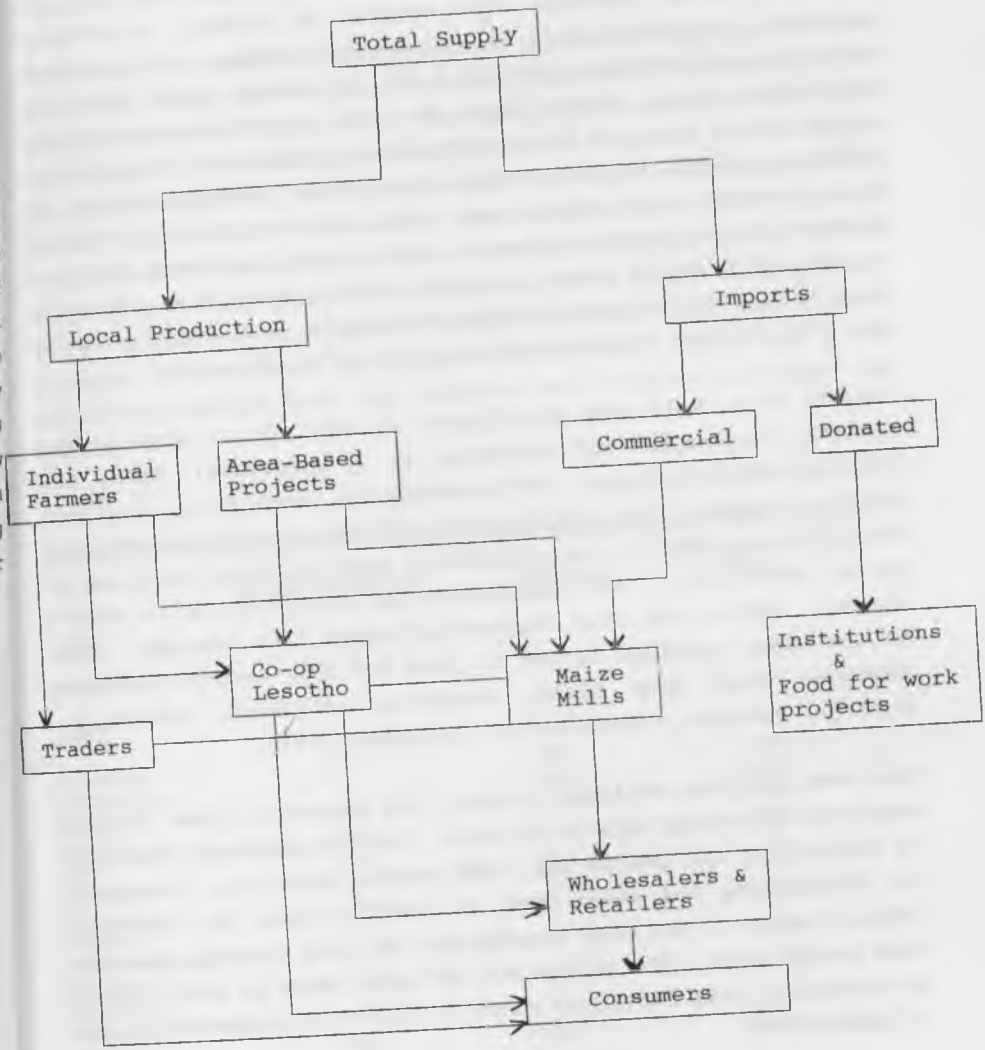
A large proportion of the maize produced in Lesotho is marketed during the months stretching from June to October (Table 2.6). This is because maize harvesting starts in May/June. Maize marketing continued to December in 1988 because large quantities were marketed and this resulted in Co-op Lesotho and some of the mills being unable to purchase all the maize because of inadequate storage. In most instances farmers were told to wait for a few days/weeks before selling maize to either Co-op Lesotho or the mills. This has been a major complaint by farmers as they wish to sell their maize whenever they wish. The delays encountered in marketing maize leads to some farmers getting low prices because in Lesotho on-farm grain storage is a problem such that storing maize at the farm/home may lead to the maize being down-graded as a result of spoilage caused by insects, weather elements and rodents.

Table 2.6: Quantities of Local Maize Purchased by Mills (1985-1989) (Mt)

MONTH	1985	1986	1987	1988	1989	1990
January	-	201	93	69	561	59
February	-	274	450	53	1896	38
March	-	73	175	50	213	30
April	-	167	22	27	156	19
May	-	34	14	67	109	19
June	15	50	226	101	56	11
July	1167	1661	2900	1235	46	
August	3784	3540	3336	7605	1226	
September	1877	3988	1133	4007	1592	
October	883	600	367	3622	216	
November	245	216	233	2785	106	
December	151	171	172	1515	68	
Total		10975	9121	21136	6245	

Source : Department of Economics and Marketing, MOA.

Figure 2.1: Maize Marketing Channels



2.2.3 Wheat Marketing Channels

Wheat marketing channels also consist of farmers, area-based projects, the wheat mill, Co-op Lesotho, traders, wholesalers, retailers and consumers (Figure 2.2). In Lesotho there is winter and summer wheat. Winter wheat is grown in the Lowlands while summer wheat is grown in the Mountains. Individual farmers can deliver directly to the Lesotho Flour Mills (LFM) or deliver to Co-op Lesotho and traders who then deliver to LFM. Usually farmers located nearer to Maseru prefer to deliver wheat directly to the mill while those located further away from the mill usually deliver to Co-op Lesotho and traders. Area-based projects can also deliver directly to the mill or Co-op Lesotho.

Lesotho Flour Mills was established in 1979. It is owned by the Lesotho Government and operates as a parastatal under the Ministry of Agriculture. LFM is managed by consultants, Spillers Milling Company, from Britain. In addition to milling wheat and maize through LMM, it also operates a sugar packing plant and an animal feed mill. The capacity of the mill's silos is 40,000 tonnes. LFM is the sole importer of wheat into Lesotho. Most of the wheat imported by LFM is from the RSA. Recently LFM has imported wheat form Spain, Argentina and Saudi Arabia (J. Mokotjo, Personal communication, December 1990).

LFM does not own delivery trucks, but contracts them locally whenever deliveries have to be made. For the mountain districts of Mokhotlong and Qachas Nek, LFM usually uses rail transport. For Mokhotlong the wheat meal is send by rail to Underberg (Natal) where it is then transported by road through the Sani Pass border post. For Qachas Nek the wheat meal is send by rail to Matatiele (Cape Province) where it is then transported by road to Qachas Nek.

LFM also handles donated wheat. The donated wheat is usually sold to LFM at market prices and the money is given to the Food Management Unit for its projects. In addition, LFM handles

emergency food and the strategic food reserves. These are milled and some are held for emergencies.

The data for quantities of wheat purchased locally by LFM indicates that most of the wheat is delivered directly to the mill by farmers (Table 2.7). The data also indicates that most of the wheat is marketed during the first 3 months of the year. The implication of this is that most of the wheat marketed is winter wheat which is harvested from December until January. The indication is that winter wheat is produced primarily as a cash crop while summer wheat is mainly produced as a subsistence crop. It is probable that summer wheat is mainly for subsistence because it is grown in the Mountains where there are a few marketing outlets such that farmers have nowhere to market the wheat.

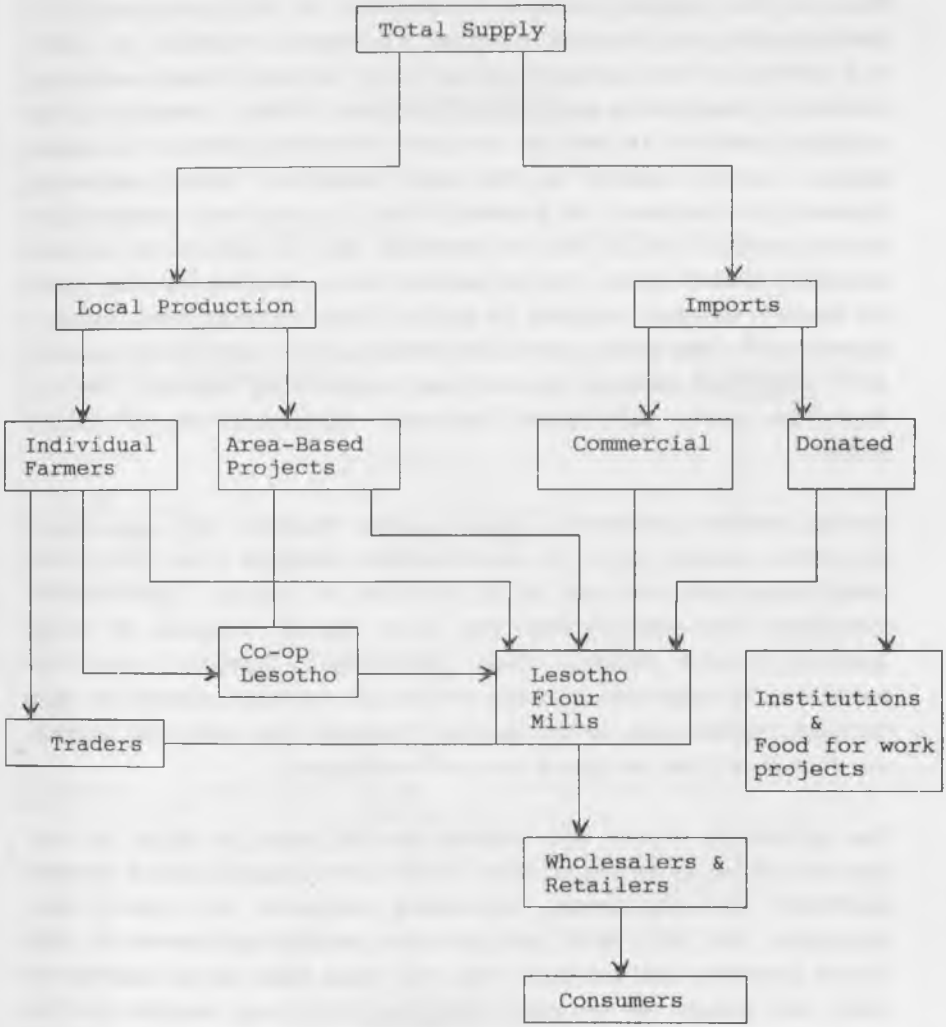
Table 2.7: Quantities of Local Wheat Purchased by LFM (Mt)

	Co-op Lesotho	Farmers	Total
1987			
December	-	74	74
1988			
January	-	694	694
February	-	1162	1162
March	163	-	163
April	100	-	100
May	36	-	36
June	-	73	73
July	84	-	84
August	-	-	-
September	3	-	3
October	3	-	3
November	-	-	-
December	-	-	-
Total	389	1929	2318

	Co-op Lesotho	Farmers	Total
1989			
January	-	503	503
February	-	1547	1547
March	-	500	500
April	-	378	378
May	-	334	334
June	-	114	114
July	-	73	73
August	-	36	36
September	16	-	16
October	30	-	30
November	-	-	0
December	-	-	0
Total	46	3485	3531
1990			
January	-	593	593
February	-	295	295
March	-	78	78
April	-	51	51
May	-	50	50
June	-	34	34

Source: Department of Economics and Marketing, MOA

Figure 2.2: Wheat Marketing Channels



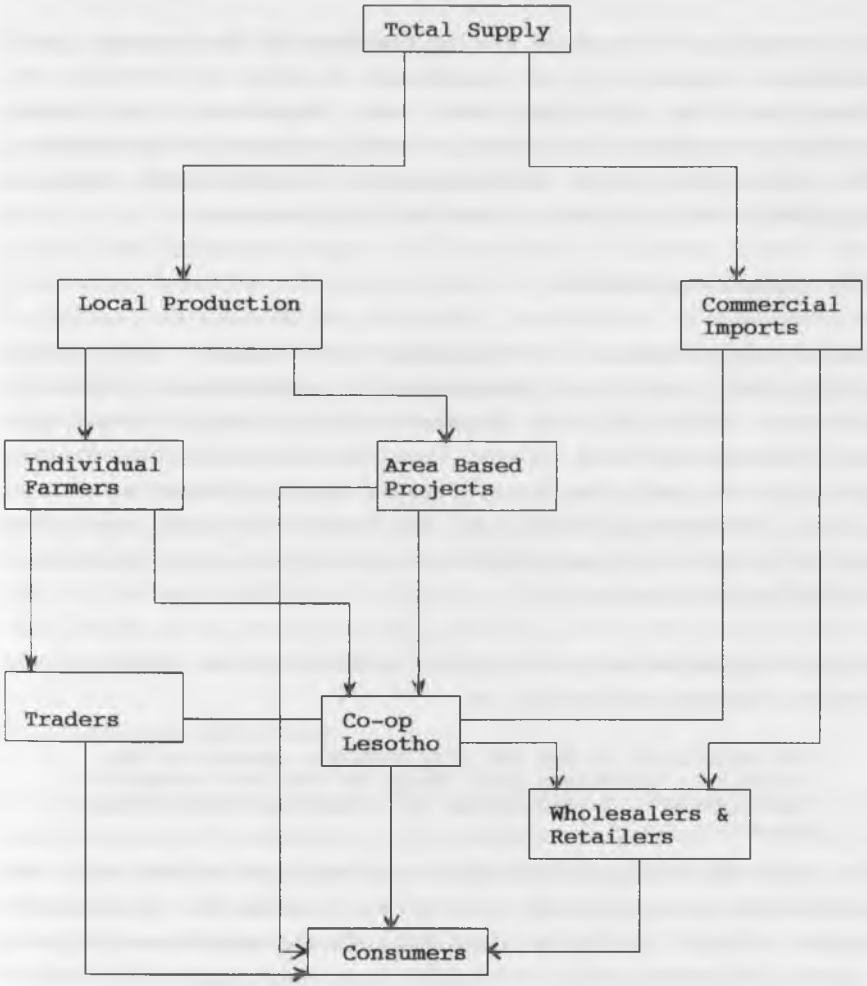
2.2.4 Sorghum Marketing Channels

Most of the sorghum produced in Lesotho is for subsistence and when traded goes through informal marketing channels. In 1982, 0.1 percent of the sorghum was marketed through formal marketing channels (Monitoring and Evaluation Team, 1985). Nearly all the sorghum produced is used in the local brewing industry in making Joala. Co-op Lesotho is the most important formal marketing channel for sorghum. At present there is only one sorghum mill in the country while most of sorghum meal is ground at private traders' hammer mills. Co-op Lesotho has a sorghum malting plant in Maseru whereby sorghum is milled into sorghum meal using a hammer mill. The newly installed hammer mill's operating capacity is 8 bags/hour whereas the old one's operating capacity was 1.5 bags/hour (Mrs. Takalimane, Personal communication, 8th March, 1989).

Co-op Lesotho purchases sorghum from farmers and area-based projects (figure 2.3). It also imports sorghum from RSA if the local suppliers are not in a position to supply. Individuals, retailers and wholesalers can only import sorghum if Co-op Lesotho cannot supply them. Individual farmers, when not marketing through the informal marketing channels, market sorghum through traders and Co-op Lesotho. Traders then sell the sorghum in either milled or grain form to consumers.

The marketing season for sorghum is the same as maize as they are harvested at the same time. Data on the quantities of sorghum marketed through formal marketing channels is almost non-existent. The only data available on sorghum purchases is from Co-op Lesotho. The problem with the data from Co-op Lesotho is that the amount of sorghum purchased by Co-op Lesotho in the years prior to 1987 are given in value terms only. In 1987/88 Co-op Lesotho purchased 14.1 tonnes of sorghum from local farmers while in 1988/89 it purchased 1,068 tonnes.

Figure 2.3: Sorghum Marketing Channels



CHAPTER III

CONCEPTUAL FRAMEWORK FOR ANALYSING THE PERFORMANCE OF THE LESOTHO GRAIN MARKETING SYSTEM

In attempting to analyse the performance of the Lesotho grain marketing system it is of importance to start by defining the terms used in the study. The most important being market performance which is dealt with in the first part of the chapter. The second part is on the development of performance measures applicable to the Lesotho grain marketing system.

3.1 Market Performance

Market participants, i.e consumers and farmers, are always complaining about the performance of agricultural marketing systems. On the one hand, consumers usually complain about high and fluctuating food prices, and declining quality of farm produce. On the other hand, farmers complain about below-cost prices, high input costs, and the failure of retail and farm prices to move together. Farmers also complain about the lack of marketing facilities.

Market performance is a complex notion. Caves (1977, p.67) defines market performance as;

> "the appraisal of how far the economic results of an industry's behaviour fall short of the best possible contribution it could make to achieving these (socio-economic) goals."

In short market performance may be defined as how well the marketing system performs what society and market participants expect of it. As can be seen from above, market participants have conflicting goals. Farmers want high prices for their produce while consumers want low food prices. Market performance is concerned with the society in general. The society in general is concerned with socio-economic goals which are efficient uses of resources, full employment without unreasonable inflation,

progressiveness and equity in distributing real output. Market performance is concerned with efficiency of the marketing system. Marketing efficiency consists of two aspects, which are referred to as operational (technical) and price efficiency.

3.1.1. Operational Efficiency

Operational efficiency is concerned with cost-reducing alternatives and technologies for physically providing marketing services. The individual marketing firm (or any other firm) is said to be operationally efficient if its production function yields the greatest output for any set of inputs, given its particular location and environment. In marketing, the physical functions are production, assembly, processing, transportation and storage. Within the marketing process the physical functions of assembly, processing, transport and storage add form, place and time utility to the product in question. The focus of operational efficiency is to provide the physical functions at minimum attainable cost of production. Thus operational efficiency is concerned with providing marketing services at the lowest cost given the factors of production (inputs) and with the use of the best available technology. Appropriate technology is that which given the structural, social, political and economic setting leads to lowest costs of providing marketing services.

3.1.2 Pricing Efficiency

Pricing efficiency criteria for a market are derived from the maximization of producer's plus consumer's surplus. Within a partial equilibrium framework consumer's surplus, the area to the left of the demand curve and above the purchase price provides a welfare measure. Producers' surplus, the area to the left of the supply curve and below the selling price, is quasi-rent or the return to fixed inputs. The maximization of producer's plus consumer's surplus in a market yields the market equilibrium under perfect competition. The maximization of producer's plus consumer's surplus may be derived mathematically

as follows:

Given the market demand and supply:

$Q_d = f(P)$ 3.1

$Q_s = g(MC)$ 3.2

Where Q_d = Quantity demanded

Q_s = Quantity supplied

MC = Marginal cost.

P = Price

Consumer's and producer's surplus may be defined by

$$\text{Consumer's Surplus (C.S)} = \int_0^{Q_d} (P)\, dQ_d - PQ \qquad 3.3$$

$$\text{Producer's Surplus (P.S)} = PQ - \int_0^{Q_s} (MC)\, dQ_s \qquad 3.4$$

Consumer's plus producer's surplus is maximized subject to the constraint that quantity supplied equals quantity demanded ($Q_s = Q_d$) and this is facilitated by using a Lagrangian function:

$$\text{Max } L = \int_0^{Q_d} (P)\, dQ_d - \int_0^{Q_s} (MC)\, dQs + \lambda(Q_d - Q_s) \qquad 3.5$$

The first order conditions are:

$$\frac{\delta L}{\delta Q_d} = P + \lambda = 0 \qquad 3.6$$

$$\frac{\delta L}{\delta Q_s} = MC - \lambda = 0 \qquad 3.7$$

$$\frac{\delta L}{\delta \lambda} = Q_d - Q_s = 0 \qquad 3.8$$

Solving equations 3.6 and 3.7, the equilibrium condition results in

$$P = MC \qquad 3.9$$

Thus producer's plus consumer's surplus is maximized when the

output price equals marginal cost (or input prices are equal to their marginal value product).

We expect a price efficient market to reflect transportation over space, storage costs over time, and processing costs over form. In addition the market is considered relatively price efficient if there is a smooth flow of information along marketing channels and participants are able to readily modify their allocation of resources in response to price signals.

Firms that are operationally efficient may not be price efficient if they fail to use inputs so that marginal revenue product is equal to factor prices (or marginal factor costs). For example, a monopolist in theory is operationally efficient, i.e. operates where the marginal revenue is equal to marginal cost but is not price efficient because the price of the output is not equal to its marginal cost. On the other hand a competitive firm is both operationally and price efficient because producer's plus consumer's surplus are maximized, i.e. the marginal cost of the output is equal to its marginal revenue and price.

3.2 Development of Performance Measures

In the field of market organization one of the most difficult problems is developing performance measures. The identification of relevant performance dimensions relies heavily on the goals of society. Usually wide variations exist between markets, some are less efficient than others. In trying to improve the performance of a market, a reference point or standard of measurement is needed. Performance standards are usually developed by reference to the expected performance of perfectly competitive markets which in real world departs from its theoretical ideal. The concept of perfect competitive market, despite its limitations acts as a useful directional aid in evaluating market situations. Williams and Stout (1964) argue that the perfectly competitive market can be compared to the North Star. One need never visit or even desire to go to the

North Star to find that it is a useful navigational aid.

Firstly, it must be appreciated that the grain marketing system involves many participants. In the Lesotho grain marketing system the participants include farmers, consumers, the mills, marketing institutions and the government. Secondly, each group of participants has expectations and objectives about the grain marketing system and these objectives may in some cases be conflicting as previously mentioned with regard to farmers and consumers. Government is concerned with seeing to it that farmers, consumers and other market participants are satisfied by making regulations which have to be observed.

Martin (1980) proposes that in analyzing market performance, one should first start by specifying the expectations of market participants as generalized objectives. Secondly we should define a set of performance indicators that represent the various objectives. The final step is to specify a set of quantifiable measures that represent each of the performance measures and provide the basis for analysis. In developing performance measures applicable to the Lesotho grain marketing system Martin's approach is followed. The only problem with Martin's approach is that it applies to North America where the grain production system is efficient and well developed and farmers respond to market signals.

In developing performance measures applicable to the Lesotho grain marketing system, several problems were encountered. Lesotho agriculture can be said to be of subsistence nature which implies that very little quantities of grains are marketed through formal marketing channels. This poses a problem because subsistence farmers have multiple objectives on the grain marketing system which in most cases may prevail over the need to maximize profit in the Western sense. Government objectives with regard to the grain marketing system were obtained from the various Five Year Development Plans and Ministry of Agriculture (1988). In some cases the objectives were "made up" by the

author on the basis of efficient marketing system theories. This means the objectives were based on what an efficient grain marketing system ought to provide. This may turn out to be inappropriate for Lesotho because in most cases efficient marketing system theories assume that farmers produce for the market which might not be the case in Lesotho as most farmers produce for subsistence.

The first objective of the Lesotho grain marketing system is to ensure adequate supply of grain for domestic requirements. The Government of Lesotho places a high priority to this objective as reflected in the Five Year Development Plans and public addresses and statements made by policy makers throughout the country. The objective of the government is to attain self-sufficiency in food grain production. The major reason for striving for self-sufficiency in food grain production is to guarantee food security and freedom from dependence on RSA. At present most of the commercial grain imports into Lesotho come from RSA. One way by which government has been trying to attain self-sufficiency in food grain production has been in the form of area-based development projects. The performance indicator of this objective is the level of self-sufficiency in food grain production and the quantifiable measures are:

(a) Trend and variation in local grain production,
(b) Trend and variation in grain imports, and
(c) Trend and variation in self-sufficiency in grain production.

The second objective which is closely related to the self-sufficiency objective is to encourage productivity in grain production. The first performance indicator for this objective is the level of productivity whose quantifiable measures are:

(a) Trends in yields, and
(b) Research expenditure on new varieties of grains.

The second performance indicator is the availability of agricultural inputs whose quantifiable measure is the number of

outlets selling inputs. The third performance indicator is the price of inputs whose quantifiable measure is the trend in input prices.

The third objective of the Lesotho grain marketing system is to encourage and promote production of grains. In this case it is assumed that producers respond to economic incentives in grain production. The first performance indicator of this objective is the level of grain producer prices and returns. The quantifiable measure is the trend in grain producer prices and price-cost margins. With regard to price-cost margins the question is whether grain production is profitable. The second performance indicator concerns stability of grain producer prices. In agriculture it is usually assumed that producers and consumers prefer price stability to instability.

The third performance indicator of this objective is market signals. In this case the concern is whether producers and other firms receive market signals in terms of what to produce, what quality and what quantity. The quantifiable measures for this indicator are:

(a) Grading, and
(b) Timing of producer prices announcements.

The other objective of the Lesotho grain marketing system is to organise the marketing of grain in the most efficient manner. This objective is concerned with the operational efficiency of the grain marketing system. Throughout history, several grain marketing systems have been tried in Lesotho. This was done in attempts to attain the most efficient grain marketing system. Operationally, a marketing system is considered efficient if it provides marketing services at the lowest cost. The marketing services include storage, transportation and processing. The characteristics of grain production and consumption are important.

The first performance indicator of this objective is least cost

storage whose quantifiable measure are the different kinds of grain storage in place in Lesotho. Related to this is least cost grain transportation and grain processing. The second performance indicator is concerned with the pricing of grains and grain products. The major question is whether prices are determined taking into consideration the storage, transportation and processing costs?

The other objective of the Lesotho grain marketing system is equity in marketing. Government policy is to carry out farm marketing as a public sector activity because traders in the past were seen to be exploitative and because of the need to maintain marketing services to remote communities which private traders may not maintain at a fair price. With regard to producers, the policy is to provide marketing services irrespective of their location. That is, a producer in the Mountains should get the same marketing services as a producer in the Lowlands. The quantifiable measure of producer equity in marketing is price variations amongst producers.

It is also government policy that consumers of grains and grain products be treated equitably. This means consumers should pay the same price of grains and grain products irrespective of their location in the country. The quantifiable measure for consumer equity is price variation amongst consumers of grains and grain products.

CHAPTER IV

EMPIRICAL EVIDENCE OF THE PERFORMANCE OF THE LESOTHO GRAIN MARKETING SYSTEM

4.1. Adequate Supply of Food Grains

As indicated earlier the first objective of the grain marketing system is to ensure adequate supply of grain for domestic requirements. Lesotho's domestic grain requirements are made up of local production and imports. Grain imports are made up of commercial and donated imports.

4.1.1 Domestic Grain Production

One of the most important policies of the Lesotho Government is to attain self-sufficiency in food grain production. Self-sufficiency can be defined as achieving 100 percent of the staple food needs of a nation from domestic production and storage under all weather probabilities. The domestic production for the grains for the period 1973/74 to 1988/89 shows significant year to year variations. In the period 1973/74 to 1977/78, grain production was generally on the increase and reached peaks in 1977/78. From 1978/79 grain production has generally been declining with a turn-a-round in 1984/85. Maize production reached record levels in 1988/89 mainly because of favourable weather. On the one hand the area planted to maize has been increasing since 1977/78 while the area planted to sorghum has stabilized around 60,000 ha. On the other hand the area planted to wheat has been declining for the period 1973/74 to 1985/86. The decline in area allocated to wheat is more pronounced in winter wheat than in summer wheat. In 1973/74, 48,00 ha were allocated to winter wheat and this declined to 8,000 ha in 1985/86 - a 500 percent decline! The decline in both maize and sorghum production seems to be a result of declining yields which have been declining since 1976/77 (Table 4.3). The decline in wheat production seem to be mainly caused by both decline in area

planted to wheat and yields which both show a downward trend for the period covered.

Several explanations have been put forth by analysts for the possible causes of the low food grain production in Lesotho. It has been suggested that the low grain production is due to the migration of men to RSA mines (Eckert et al, 1982 and Marketing Sections, 1983). It is argued that the absence of able bodied men results in reduced labour input in agriculture. It is also argued that many families depend on mine remittances and as a result are less dependent on farming as a means of subsistence and hence have less incentive to engage seriously in agricultural production.

One other possible cause of the low food grain production are natural calamities like weather and pests. In the early 1980s Lesotho and the whole region of Southern Africa experienced drought which affected grain production. Pests, e.g. locusts and cut-worm, have also contributed in part to the low production. In some years, e.g. 1975/76, production was low mainly because of excessive rains during the harvesting period.

The other possible cause of the low grain production is the decline in soil fertility caused by soil erosion and overstocking. Soil erosion remain one of the very serious problem facing Lesotho. Every year thousands of tonnes of the top soil are washed away by rains and this results in low soil fertility which in turn affects yields. Soil erosion is also caused by overgrazing. It has been estimated that Lesotho is 300 percent overstocked. Overstocking causes overgrazing which results in land degradation and ultimately soil erosion. Gully erosion which causes dongas also contributes to the decline in arable land.

From 1970 to 1977 land under cultivation decreased by 22 percent and has since stabilized. Recently population pressure has led to agricultural producing areas being turned into residential

areas. This is more pronounced in peri-urban areas of Maseru, Maputsoe and Thota-Moli. The encroachment of residential areas on arable land has meant decreased land suitable for cultivation.

It has been argued that the introduction of fast maturing hybrid seeds has led to farmers planting too late. In most cases crops that are planted too late do not mature because of frost. Late planting is also caused by some farmers having no livestock to plough. From 1970 to 1980 the proportion of rural households without livestock increased from 38 percent to 47 percent. This means more people have to rely on other peoples livestock for ploughing. Late planting may also be caused by the labour migration system whereby the women left behind cannot make decisions as to what crops to plant because they have to consult with their husbands in the mines. This may not be a serious problem nowadays because the husbands come home frequently during week ends and holidays.

It has also been argued that the land tenure system does not provide farmers with security of tenure and as a result farmers do not invest in land. According to the land law of Lesotho, a farmer can have a field confiscated if a field is left follow for three years. It is claimed that some farmers are more interested in retaining the right to land than in producing from it.

The Marketing Section of MOA (1983) lists three possible causes of the declining planted area to winter wheat production. All the reasons relate to CCPP which grew winter wheat in the Lowlands. It is argued that farmers saw how much better crops could be when produced under CCPP's high input technology and got discouraged from planting as many hectares of winter wheat as they used to with their traditional methods. Hence when CCPP experienced problems farmers did not revert to growing wheat on their own. Under CCPP, combine harvesters were taken to rural areas and farmers found them to be a great improvement over traditional methods. In most cases CCPP did all the tasks from

ploughing up to threshing which it could afford because it was highly subsidised and when it ceased operations farmers could not continue with wheat production at the same level as CCPP. It can be argued that farmers are no longer interested in wheat production and as a result have ceased growing wheat and resorted to growing maize hence the increasing area allocated to maize production.

Some of the possible causes of declining grain production are related to marketing. It is possible that with the reduced number of marketing outlets farmers were discouraged from producing grain. The frequent changing of marketing institutions may have also led to farmers being discouraged from producing grain. Sometimes there have been confusion in the pricing system between Lesotho and RSA. Sometimes prices in Lesotho have been set too high relative to those prevailing in RSA and this makes it difficult for marketing agencies to dispose of the produce. Marketing agencies in some cases cease or temporarily stop purchasing produce rather than face losing money. Sometime prices in Lesotho have set too low relative to prices in RSA and this leads to farmers to withhold thier produce or smuggle it across to RSA.

4.1.2 Grain Imports

The domestic production of grains does not meet the total requirements such that grain has to be imported to meet the shortfall. Grain imports are in the form of commercial and donated. Commercial imports are mostly from RSA. Lesotho is treated as a domestic buyer by RSA because she belongs to both the Southern Africa Customs Union (SACU) and the Common Monetary Area (CMA). This ensures Lesotho of supplies even if RSA has to import either maize or wheat. Also Lesotho benefits from the fact that RSA marketing boards' selling prices are normally fixed for a year and do not take account of storage costs which are met by subsidies from RSA Government. Because supplies of maize and

wheat are reliable and the storage costs are subsidised there is no incentive for Lesotho to seek other sources of supply or to hold large quantities of maize and wheat. The major disadvantage of relying on one country for imports is that when relations between the two countries get worse, supplies may be cut and the other country has to start looking for other sources of supply. Donated imports are from western countries, private organisations and United Nations agencies. The major western countries which donate food grains to Lesotho include the USA, Canada, and the EEC while private agencies include Catholic Relief Services (CRS). The UN agencies include the World Food Programme (WFP) and others. There are no donated sorghum imports. The Government of Lesotho has recently announced that donated imports will be restricted.

Total imports of maize and wheat have generally been increasing. From 1973/74 to 1981/82 wheat imports stabilized around 34,000 tonnes per year but from thereon started increasing (Table 4.1). Since 1979/80 maize imports have exceeded domestic production such that imports now constitute over 50 percent of the total maize supply. The same phenomenon has been observed with regard to wheat. At present wheat imports constitute around 80 percent of the total wheat supply.

Table 4.1 : Total Supply of Food Grains in Lesotho (000mt).

	1973/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83	83/84	84/85	85/86
Domestic Production													
Maize	112.5	70.3	49.1	125.9	143.2	124.9	105.6	105.7	83.0	76.2	79.4	92.4	86.5
Wheat	57.0	45.3	44.6	61.4	57.9	33.6	28.2	17.0	14.5	14.8	17.1	18.4	11.0
Sorghum	84.0	37.4	24.5	62.3	85.8	69.0	59.3	47.7	26.0	30.7	33.8	54.8	33.6
Commercial Imports													
Maize	60.1	62.7	76.4	77.0	85.3	83.0	95.7	102.0	87.2	94.9	99.8	102.3	97.9
Wheat	31.3	32.0	31.2	35.7	30.8	31.5	30.3	23.9	22.0	31.8	32.0	32.0	32.0
Sorghum	7.1	3.1	5.1	1.9	1.8	1.4	1.0	1.7	3.3	1.3	1.0	1.0	1.0
Donated Imports													
Maize	7.3	11.8	6.7	5.0	6.0	8.0	10.0	15.0	12.0	9.0	9.0	15.0	15.0
Wheat	1.0	1.8	1.5	1.1	1.3	6.9	7.4	6.4	11.8	20.6	26.6	30.7	31.0
Sorghum	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Imports													
Maize	67.4	74.5	83.1	82.0	91.3	91.0	105.7	117.0	99.2	103.9	108.8	117.3	112.9
Wheat	32.3	33.8	32.7	36.8	32.1	38.4	37.7	30.3	33.8	52.4	58.6	62.7	63.0
Sorghum	7.1	3.1	5.1	1.9	1.8	1.4	1.0	1.7	3.5	1.3	1.0	1.0	1.0
Total Supply													
Maize	189.9	144.8	132.2	207.9	234.5	215.9	211.3	222.7	182.2	180.1	188.2	209.7	199.4
Wheat	89.3	79.1	77.3	98.2	90.0	72.0	65.9	47.3	48.3	67.2	75.7	81.1	74.0
Sorghum	91.1	41.1	29.6	64.2	87.6	70.4	60.3	49.4	29.3	32.0	34.8	55.8	34.6

Source: Bureau of Statistics and Ministry of Agriculture (Various Years)

4.1.3 Food Grains Self-sufficiency

Because of the low productivity and declining grain production, Lesotho is not self-sufficient in food grain production. Self-sufficiency is taken to be total domestic production divided by total supply which consists of total domestic production and imports. Lesotho is almost self-sufficient in sorghum. Sorghum self-sufficiency ratio is around 95 percent for the years 1973/74-1988/89 (Table 4.2). In maize and wheat production, Lesotho is not self-sufficient. Since 1977/78, Lesotho self-sufficiency in both maize and wheat show a sustained downward trend. Maize self-sufficiency was at a peak in 1973/74 and at the lowest in 1975/76. Since 1980/81, maize self-sufficiency has been around 44 percent which means 56 percent of the total maize supply is imported.

Wheat self-sufficiency also shows a downward trend like maize. Since 1982/83 wheat self-sufficiency has been around 20 percent which means about 80 percent of the total wheat supply is imported. It seems Lesotho's self-sufficiency in food grains will decline further. This is because food grain production shows a declining trend and at the same time Lesotho population is increasing rapidly. From 1976 to 1986, the annual population growth rate is 2.8 percent as opposed to 2.6 percent between 1966 and 1976. The increasing population and low grain production mean that Lesotho will increasingly rely more on imports.

Table 4.2: Food Grains Self-Sufficiency in Lesotho (Percent)

Year	Maize	Wheat	Sorghum
1973/74	65	64	97
1974/75	49	58	98
1975/76	37	58	83
1976/77	61	63	83
1977/78	61	64	98
1978/79	49	44	97
1979/80	48	47	98
1980/81	43	43	98
1981/82	48	36	97
1982/83	46	30	89
1983/84	42	22	96
1984/85	42	23	97
1985/86	44	23	98
1986/87	43	15	97
1987/88	42	18	90
1988/89	53	20	98
Average	48	39	95

Source: Bureau of Statistics and Ministry of Agriculture (Various Years)

4.2 Productivity

4.2.1 Grain Yields

Productivity in food grain production is measured as output per unit area e.g. kgs/ha, kgs/ac or lbs/ac. In Lesotho kgs/ac and Kgs/ha are the most commonly used measures of productivity. As mentioned earlier evidence suggests that productivity in food grain production is one of the major causes of the low production. The average yields for maize, sorghum and wheat are 785 kgs/ha, 801 kgs/ha respectively for the years 1973/74 to 1985/86. The yields realised in Lesotho compare unfavourably with the yields realised in RSA. The average yields in RSA for maize, sorghum and wheat are 2,000 kgs/ha, 1,900 kgs/ha and 1,000kgs/ha respectively for the period 1974/75 to 1983/84 while in Swaziland the average maize yields are 1,300 kgs/ha (FAO, 1984).

Evidence suggests that productivity is the major cause of the poor and declining grain production. The causes of the low productivity have been pointed to weather and poor management practices. The low productivity may also be caused by inappropriate agronomic practices which include inadequate land preparation, late weeding, lower seeding rates which results in lower plant population density and low fertilizer applications. Research has shown that grain yields can be increased significantly if farmers use hybrid seeds, and plant at the right time. Research undertaken at the Research Division of MOA over the last two years show that the average maize yields are 3,000-4,000 kgs/ha (Massey, 1989). The other finding from fields in the Lowlands and Foothills is that hybrid maize yields 50-100 percent more grain than open pollinated or saved seed.

Table 4.3 : Average Grain Yields in Lesotho (Kgs/ha)

Year	Maize	Sorghum	Wheat
1973/74	869	991	694
1974/75	556	547	714
1975/76	425	443	748
1976/77	1,359	1,331	1,397
1977/78	1,284	1,383	1,269
1978/79	1,021	1,274	885
1979/80	892	919	919
1980/81	774	749	721
1981/82	608	446	536
1982/83	601	539	465
1983/84	573	540	511
1984/85	637	672	427
1985/86	611	585	423
1986/87	569	397	631
1987/88	842	691	729
Average	775	767	738

Source: Bureau of Statistics and Ministry of Agriculture (Various Years)

4.2.2 Research Expenditure on Grains

The Research Division of MOA is mandated to undertake agricultural research in the country. Agricultural research in the country began in 1952 with the establishment of the Maseru Experimental Farm which is presently the Research Division of MOA. The Research Division undertakes crop trials to ascertain if the seeds are suitable for Lesotho conditions. The results are disseminated to farmers through extension agents.

Most of the new varieties of grains grown in Lesotho are imported from RSA. In RSA, there are private seed companies which undertake research on development of new grain varieties. It is usually claimed that the climatic conditions in the RSA are almost the same as those in Lesotho such that the new seed varieties being developed in RSA should do well in Lesotho. In some cases RSA seed companies develop seed varieties for Lesotho conditions. For instance, the Highland maize is specifically suited for the mountain region because it requires a shorter growing period. One major problem with the imported seeds is that the hybrid seeds are bred in a country where fertilizer is always available and applied as recommended. Such hybrid seeds respond well to fertilizer but yield poorly when it is not applied. Basotho farmers do not apply the recommended fertilizer rates. In most cases fertilizer application rates are low and are only about half of the recommended rates (FAO, 1980). The Ministry of Agriculture's Research Division runs a soil testing laboratory. After the soil is tested, farmers are given the recommended lime, fertilizer and manure rates to be applied. The soil analysis costs M2.00 and M10.00 per sample for farmers and projects respectively.

The only controlled seed production in Lesotho was carried out by the Wheat Seed Multiplication Unit (WSMU) of MOA which was started in 1967. The WSMU contracted with individual growers, associations or small farmers to grow about 490 tonnes of an RSA

winter wheat variety. The WSMU is no longer in operation. At present Seed Multiplication Unit of the Department of Crops does a limited seed multiplication. Plans are underway to establish a hybrid maize seed production and processing plant in Lesotho. The plant will be a joint venture between the LNDC, the Pioneer Hi-bred International Company from the USA and Agrivet which is a local company involved in the distribution of seeds (Molefi, 1989).

4.2.3 Availability of Inputs

The major inputs required in the production of grains are seeds, fertilizer, pesticides and implements such as ox-ploughs, planters and yokes. Most of the inputs are imported from RSA although some of the implements are manufactured in Lesotho e.g The Thaba Khupa Ecumenical Centre and Lesotho Steel manufacture a limited range of agricultural implements. Before government intervention in the agricultural marketing system, traders sold both agricultural inputs and implements. Traders ceased dealing in agricultural inputs around 1973/74. After this period the marketing of inputs became the responsibilities of PMC and Co-op Lesotho. Traders now sell mostly agricultural implements. Recently private concerns selling agricultural inputs have been established in Mafeteng, Maseru, Maputsoe and Hlotse. Co-op Lesotho has just over 40 depots and there are approximately six concerns handling agricultural inputs which means there are nearly 50 outlets selling inputs in the country. Under the Agricultural Input Distribution Reform component of the Lesotho Agricultural Policy Support Programme (LAPSP) financed by the USAID, the Lesotho Government encourages the private sector including individuals, associations and farmers' co-operatives to participate in a free and competitive market system for agricultural inputs (Mirror, 1989).

Evidence suggests that since 1973/74 there has been a decline in the number of outlets selling agricultural inputs but to what extent this has affected grain production is not known. Evidence

from surveys undertaken in the early 1980s indicate that the availability of inputs was not a major difficulty facing farmers. Farmers indicated lack of money to purchase inputs as being their major difficulty (Wyeth and Moletsane, 1984a). At present it seems the major complaint from farmers is that in most instances inputs are not available at the right time from Co-op Lesotho depots and that when available are expensive.

Fertilizer and seed prices are variable from year to year (Table 4.4). This is because in some years fertilizer and seed prices are subsidized and in some they are not. The fertilizer and seed subsidy scheme has been in operation since 1963. The purpose of the subsidy scheme has been to encourage increased use of fertilizers and improved seed by making them available to farmers at approximately factory prices (Tarbox, 1979). The fertilizer subsidy was financed through the FAO International Fertilizer Supply Scheme and the Overseas Development Mission (ODM). The fertilizer subsidy was divided into two parts. The first being price subsidy and the second being a transport subsidy intended to equalize the internal delivery costs and to keep the price uniform throughout the country (Tarbox, 1979). Agricultural implements prices are generally on the increase. This is because they are not subsidized like fertilizer and seeds.

Table 4.4 : Selected Input Prices (Maloti)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
Maize Seed (kg)	0.19	0.26	0.28	0.29	0.27	0.34	0.25	1.25	1.00
Wheat Seed (kg)	0.16	0.17	0.20	0.21	0.22	0.29	0.26	0.41	0.52
Sorghum Seed (kg)	0.16	0.20	0.25	0.26	0.26	0.29	0.35	0.62	0.50
Saifos (50kg)	7.30	7.50	11.78	15.00	11.00	12.30	11.82	9.88	12.72
3:2:0 (50kg)	8.75	-	12.00	15.00	11.13	14.51	16.19	12.34	15.00
Plough	31.50	34.00	43.00	49.00	150.00	-	110.95	118.38	122.80
Planter	200.00	138.00	195.00	155.00	177.50	200.00	312.52	334.30	333.44
Harrow	-	-	90.00	95.00	-	-	78.47	78.47	81.38
Ox-Cart	-	-	-	-	3.00	426.00	481.65	536.92	652.82
Thiodan	2.25	2.50	2.70	3.15	4.00	-	-	6.50	7.85
Spade	5.10	5.40	6.90	9.30	7.99	8.73	10.25	10.13	11.38
Sickle	1.20	2.00	1.72	2.10	2.52	3.02	2.43	2.70	3.00

Source: Bureau of Statistics (Various years).

4.3 Encourage Production of Grains

4.3.1 Producer Prices

Since the mid-1970's cost-plus pricing has been the approach followed in Lesotho in the pricing of grains. By cost-plus pricing is meant that all production costs which usually include ploughing, discing, planting, cultivating and hoeing (not for wheat), seed, fertilizers, chemicals, bags and twines, transport and interests on costs. The resulting figure is divided by the estimated crop yield (kg/ha or kg/acre) to arrive at production costs per bag or tonne. A percentage margin is then added to the production costs per bag or tonne to arrive at the producer price. The percentage margin is to provide the farmer with his profit. The practice in Lesotho has been to give farmers a margin of between 5 and 20 percent. Usually when production is poor, the margin is set higher and when production is relatively

poor, the margin is set higher and when production is relatively good, the margin is set lower.

The Crops Division of the MOA used to collect production costs and later the Farming Systems Research Project based in the Research Division of MOA collected production costs at Nyakosoba (Foothills), Siloe (Lowlands) and Molumong (Mountains). The FSSP (TOU) has also provided production costs estimates which are considered to be representative of those incurred by farmers producing for the commercial market. The costs incurred by subsistence farmers using traditional technology are not well documented.

Cost-plus pricing was abandoned in the early 1980s, because of several reasons. The first reason is that because of Lesotho's dependence on RSA for food imports, the pricing system followed in RSA has a great impact on Lesotho pricing systems. If Lesotho producer prices and hence consumer prices are higher than those prevailing in the RSA, smuggling of grain products across the border is encouraged. RSA producers smuggle grain into Lesotho where they can get better prices and Lesotho traders smuggle the cheaper RSA maize/wheat meal into Lesotho. If Lesotho producer prices are lower than RSA's, Lesotho farmers smuggle produce across the border into RSA where they can get relatively higher prices. Traders also smuggle the cheaper Lesotho grain products into RSA. The other reason is that production costs have been increasing at a very fast rate because of inflation. If cost-plus pricing is followed it means producer prices and hence consumer prices will have to move in line with the inflation rate. For instance in 1984/85 RSA maize producers presented M500/tonne as being their production costs. This could have serious implications for consumer prices. Cost-plus pricing has been replaced by import parity pricing.

By import parity pricing is meant that the domestic producer price is set equal to that of some selected market. In the case

of Lesotho, the selected market is RSA for obvious reasons[3]. For imported products, the Lesotho producer price is RSA boards' selling prices plus transport and handling charges to Lesotho. This is called import parity pricing. For exported produce e.g. beans and peas, the Lesotho producer price is RSA prices minus transportation and handling charges from Lesotho to RSA. During the period of private traders handling grains i.e. before 1974, Lesotho grain prices moved in line with RSA prices. With regard to maize, import parity pricing was followed while with wheat export parity pricing was followed. Export parity pricing was followed for wheat because even though Lesotho imported large quantities of wheat there was no wheat mill in the country such that the wheat was exported and imported later in milled form.

The major advantage of import parity pricing is that problems of controlling illegal product movements across the borders are eliminated. The major disadvantage is that it assumes no disparity of costs of production and yield levels which is not the case. RSA yield levels tend to be higher than Lesotho's. The other reason is that the practice in RSA has been to set agricultural produce prices above world prices as a way of encouraging self-sufficiency in agriculture and because of import parity pricing policy Lesotho has to follow the high RSA prices. Recently RSA agricultural prices have been at par or lower than world prices mainly because of the weakening Rand against the major currencies of the world.

Since RSA has a considerable impact on the agricultural pricing system of Lesotho it is of interest to briefly outline the grain pricing system in that country. The pricing system for maize, wheat and sorghum in the RSA are the same. The main feature of the RSA agricultural marketing system is that it is board controlled. There are over 20 agricultural marketing boards in RSA. This means that RSA agricultural marketing system is single-

[3]Botswana and Swaziland also follow import parity pricing ex the RSA.

channel system. By single-channel marketing system is meant producers, usually located in controlled areas, have to market through a marketing board and nowhere else. The RSA Maize Board used to handle maize and sorghum but recently sorghum is now handled by the newly established Sorghum Board. Nearly 95 percent of the maize crop is produced in what is known as area "A" which comprises Transvaal, Orange Free State, certain districts of Natal and Cape Province. Producers in area "A" are prohibited from selling to anyone but the Maize Board. Area "B" comprises certain districts encompassing the urban areas of Natal and Cape Province where producers may sell their maize to registered traders who in turn can sell it on their own account at prices which cannot be less than producer prices in area "A". Producers in the rest of the country can market their crop any way they wish. Wheat is handled by the Wheat Board. Most of the wheat produced in RSA is from the western Cape Province and the Orange Free State.

Each grain has a producer association e.g. for maize the producer association is the National Maize Producers Organization (NAMPO). Producer organizations first make price recommendations which are passed on to the National Marketing Council (NMC) which coordinates the activities of all marketing boards in RSA. The NMC has production costs collected from a sample of farmers and uses this data together with the submissions from the boards and producer organizations to arrive at its own price recommendations. The NMC's price recommendations are passed on to Cabinet which is the ultimate decision maker. In arriving at producer prices, the Cabinet has to take into consideration economic and political factors. It also takes into consideration production in other countries, world prices, etc. Thus the price recommendations start from producers where only producers' interests are considered and move up to the Cabinet where the society's interests are considered. After Cabinet arrives at the producer price, it is gazetted and remain in force for one season. Maize and sorghum prices are usually set in May while wheat prices are set around October/November.

After RSA announces producer prices, the agricultural pricing machinery in Lesotho is set in motion. For maize and sorghum, producer prices are determined in May after RSA's price announcements. The Agricultural Pricing Committee which consists of representatives from the mills, Co-op Lesotho, farmers in each district, Crops, Research and Economics and Marketing Departments of the MOA and chaired by the Principal Secretary MOA meet to determine Lesotho producer prices. The Principal Secretary then advises the Minister of Agriculture who then presents the recommended prices to Cabinet. The Lesotho producer price is equal to RSA marketing boards' selling price plus transportation and handling charges to the mills (Maseru and Maputsoe). This provides the landed price of imported grain at the mills, and producer price for farmers marketing directly to the mills. For farmers marketing through Co-op Lesotho the price is the millgate price minus Co-op Lesotho handling charges. Prior to 1987/88 the committee used to also determine wholesale and retail prices of grain products. In 1987/88, the Ministry of Agriculture suggested that the retail prices should be gazetted by the Ministry of Trade and Industry. The producer, wholesale and retail prices are gazetted and remain in force for one season i.e. from May until April/May the following year for maize and sorghum and from October/November, until September/October the following year for wheat.

When cost-plus pricing was practised, Lesotho producer prices tended to be lower than RSA's (Table 4.5). Lesotho maize and wheat producer prices started being higher than RSA's when import parity pricing was followed. Lesotho sorghum prices have been higher than RSA's since 1977 and the difference between two countries sorghum prices is more pronounced than in maize and wheat.

Table 4.5: Lesotho and RSA Grain Producer Prices (M/tonne)

Year	Maize		Sorghum		Wheat	
	Lesotho	RSA	Lesotho	RSA	Lesotho	RSA
1973/74	49.33	57.00	62.00	55.22	61.18	95.60
1974/75	49.00	62.00	55.00	71.01	77.00	102.74
1975/76	55.00	65.00	65.00	73.19	104.86	117.94
1976/77	64.50	65.00	72.14	81.04	108.14	117.94
1977/78	72.00	73.00	79.00	75.20	114.29	132.09
1978/79	106.00	79.90	107.00	83.71	123.00	179.44
1979/80	109.00	100.15	115.00	90.63	180.00	208.54
1980/81	133.00	118.25	123.09	94.77	208.74	233.16
1981/82	175.79	118.25	175.85	153.07	258.57	265.75
1982/83	191.00	134.05	175.52	119.96	279.61	285.75
1983/84	229.00	167.55	200.00	148.00	300.58	265.75
1984/85	256.85	218.55	220.60	177.33	330.43	289.03
1985/86	279.86	218.60	239.71	174.00	339.00	312.25
1986/87	320.53	240.35	249.00	187.05	390.60	347.70
1987/88	343.60	215.00	294.00	182.00	439.04	383.15
1988/89	356.01	240.00	303.00	172.00	461.86	339.50
1989/90	385.00	212.00	314.25	195.00		

Source: Bureau of Statistics and Ministry of Agriculture (Various Years)

Table 4.6 below presents Lesotho gazetted grain prices with inflationary impacts removed (1975 = 100). The prices were deflated by the Lesotho consumer price index. The deflated prices flatten out through the period covered. They essentially indicate that when inflationary impacts are removed grain prices have not increased but remained almost the same. Deflated grain prices seem to have reached highs in the drought years of 1982-1984 when production was low but have since then been on the decline as production returned to normality.

Table 4.6: Lesotho Gazetted Grain Prices (Constant Maloti/tonne)

(1975 = 100)

YEAR	MAIZE	SORGHUM	WHEAT
1973/74	64.06	80.52	79.45
1974/75	55.94	62.79	87.90
1975/76	55.00	65.00	104.86
1976/77	58.32	65.23	97.78
1977/78	55.35	60.72	87.85
1978/79	74.18	74.88	86.07
1979/80	62.79	66.24	103.69
1980/81	67.00	62.01	105.16
1981/82	77.71	77.95	114.31
1982/83	75.94	69.79	111.18
1983/84	78.83	68.85	103.47
1984/85	81.18	69.72	104.43
1985/86	88.45	64.28	90.91

Source: Own calculations.

It was earlier pointed out that most of the grain produced in Lesotho is marketed in the informal market. Informal market prices for maize and sorghum tend to be higher than formal market prices while informal wheat prices tend to be lower than formal prices (Table 4.7). It can be argued that informal maize and sorghum prices are relatively higher because of excess demand over supply whereas for wheat it is the opposite. This is because wheat is considered a luxury while maize and sorghum are the staples. Formal maize meal prices tend to be higher than informal maize meal prices. The higher price of formal maize meal and the lower cost of maize from hammer/roller mills provides a powerful incentive for a consumer to buy a neighbour's maize and have it gristed. Besides cost, freshness is said to be a factor influencing choice of locally gristed sifted maize meal especially for people isolated from the formal market but living where maize gristing services are available (Olson, 1985). Also maize and sorghum grains are widely stored in the homes because they keep better than meal. Traditional attitudes, habits and consumer preferences are also a factor. For example, it is claimed that people from the Mountain region prefer

unsifted to sifted maize meal. It can be argued that informal wheat prices tend to be lower than formal prices because most of the hammer/roller mills grist only maize and sorghum and this may have resulted in informal wheat market not being in existence.

In comparing gazetted (formal) and informal grain prices they tend to move together (Tables 4.5 and 4.7). During the drought years of 1980 - 1982, informal grain prices increased rapidly. Informal maize prices increased by 43 percent, sorghum by 120 percent and wheat by 67 percent between 1980/81 and 1981/82. Informal prices seem to have reached peaks in 1981/82 because since then they are on the decline. As informal prices are declining and formal prices increasing the gap between them is closing and it seems very soon formal maize and sorghum prices will be higher than informal.

Table 4.7: Annual Average Informal Market Grain Prices (M/tonne)

Year	Maize	Sorghum	Wheat
1973/74	-	-	-
1974/75	58.91	74.28	70.80
1975/76	59.50	78.74	76.32
1976/77	70.00	70.00	90.00
1977/78	80.00	90.00	100.00
1978/79	90.00	100.00	130.00
1979/80	100.00	120.00	140.00
1980/81	140.00	150.00	180.00
1981/82	200.00	330.00	300.00
1982/83	200.00	210.00	240.00
1983/84	190.00	200.00	250.00

Source: Bureau of Statistics (various years)

4.3.2 Returns From Grain Production

Grain production costs incurred in the 1970's are not available. They started being available in the 1980's but in the years between 1984/85 - 1986/87 there were no production costs collected. The rationale for stopping to collect them was that they were not being used in the determination of producer prices.

The collection of production costs was resumed in 1987/88 and this time they are collected by farmers with the help of district agricultural offices. The Department of Economics and Marketing of MOA is in a process of standardising the collection of production costs in the country.

Table 4.8: Average Grain Production Costs (M/Tonne)

Year	Maize	Sorghum	Wheat
1980/81	150.59	154.35	226.37
1981/82	-	-	215.43
1982/83	310.45	234.73	-
1983/84-86/87	-	-	-
1987/88	442.42	-	366.40
1988/98	368.68	-	454.42
1989/90	390.00		

Source: Plath J.C. (1982), Holland and Tsiu (1983), and Department of Economics and Marketing

In order to ascertain whether farmers are making profits form grain production, price-cost margins are presented. The price-costs margins are obtained by subtracting production costs (Table 4.8) from producer prices (Table 4.5). Price-cost margins tend to be negative for both maize and sorghum and positive for wheat (Table 4.9). Negative price-cost margins indicate losses while positive price-cost margins indicate positive returns.

Table 4.9: Grain Price-Cost Margins (M/tonne)

Year	Maize	Sorghum	Wheat
1980/81	-17	-31.26	-17.63
1981/82	-	-	43.14
1982/83	-119.45	-58.88	-
1983/84-86/87	-	-	-
1987/88	-98.82	-	72.64
1988/89	-12.67	-	7.44
1989/90	-5.00	-	-

Source: Own calculations

4.3.3 Marketing Margins

A marketing margin is the difference in the price paid at two different points in the marketing system. In the case of the Lesotho grain marketing system we are interested in the difference in the price paid to farmers marketing through Co-op Lesotho and the millgate producer price. This difference is Co-op Lesotho handling charges. Only Co-op Lesotho's handling charges will be examined because it is difficult to determine the marketing costs incurred by farmers marketing directly to the mills. Maize and wheat marketing margins will be considered although wheat marketing margins have just recently been gazetted. Co-op Lesotho marketing costs include: labour, transport, loss due to breakage, theft and weather elements, fumigation, insurance, depreciation on storage facilities and interest on short term loans.

Co-op Lesotho usually works out marketing costs and presents them to the Pricing Committee when prices are being determined. The committee has the right to reject Co-op Lesotho's submission. For example in 1984/85 season, Co-op Lesotho estimated that its maize marketing costs per tonne was M40.55 but this was rejected and M21.00 was agreed to as Co-op Lesotho's marketing costs. The same thing happened in 1989/90 when Co-op Lesotho recommneded M42.85 as its marketing costs but this was rejected and M35.99 was agreed to. It should be noted that Co-op Lesotho's marketing costs have an impact on the price received by farmers marketing through Co-op Lesotho.

Co-op Lesotho handling charges fluctuate from year to year because the Pricing Committee in most cases reject Co-op Lesotho's handling charges submissions. This means Co-op Lesotho incurs losses in handling grains which are usually made up by government subsidy. For example in 1988 the government had to subsdise Co-op Lesotho with nearly M6.2 million. Maize marketing costs tend to be higher than wheat marketing costs even though wheat producer prices tend to be higher than maize producer

prices. Wheat marketing costs consist of mostly transport costs whereas maize has to be stored, fumigated and insured. Also with maize, Co-op Lesotho usually borrows money fror the commercial banks on short-term basis. Short-term loans are much expensive as the interest rates are much higher than long term loans. Because Co-op Lesotho handles small quantities of wheat produced locally, LFM can purchase and store all of it.

Table 4.10: Co-op Lesotho Maize and Wheat Marketing Costs (M/tonne)

Year	Maize	Wheat
1980/81	-	-
1981/82	19.84	-
1982/83	21.00	-
1983/84	29.00	11.00
1984/85	21.00	-
1985/86	22.00	21.61
1986/87	41.38	23.42
1987/88	40.50	27.15
1988/89	45.15	40.00
1989/90	35.99	

Source: Laws of Lesotho (various years) and Department of Economics and Marketing

It is very difficult to evaluate the performance of Co-op Lesotho because of goverenment subsidies. Co-op Lesotho's marketing margin is low and this is amianly because of government subsidy. For the period 1980/81 to 1989/90, the average Co-op Lesotho maize marketing margin was 11 percent of the producer price while for wheat the average marketing margin was 6 percent. It seems the major problem facing Co-op Lesotho is the low quantities of grain it handles such that it does not realise economies of scale.

4.4 Market Signals

4.4.1 Grading

The grain grading system in place in Lesotho is basically RSA grain grading system. Factors affecting maize grades are percentages of defective kernels, kernels of another colour, foreign matter and infestation by weevils. The maize grading system is divided into white and yellow. White and yellow maize each consists of 4 grades. White maize consists of WM1, WM2, WM3 and WM4 (undergrade) while yellow maize consists of YM1, YM2, YM3 and YM4 (undergrade). The mills accept all the grades except undergrade which is not suitable for human consumption but for animal feed. Consumers in Lesotho and Southern Africa prefer white maize meal to yellow maize meal which means yellow maize is mainly used for stock feeding. Yellow maize meal has been used in the drought years of the early 1980's and n1990 when millers were required to blend white and yellow maize. Maize delivered to mills has to be of moisture content of 12.5-14 percent.

Sorghum and wheat grading also follow RSA grades except that with regards to sorghum RSA makes a distinction between white and dark sorghum whereas Lesotho does not. Factors involved in sorghum grading are the same as for maize except for kernels of other colours. Sorghum is graded into 4 grades; GC1, GC2, GC3 and GD1 while wheat is graded into 6 grades; A1, A2, B1, B2, B3 and undergrade. Wheat with moisture content exceeding 13 percent is not purchased by the mills. Grading is done at the point of sale i.e. Co-op Lesotho depots and the mills.

Grain producer prices are set according to grades with the best grades fetching relatively higher prices than the lower grades. Thus farmers who produce the better grades are rewarded more than farmers producing lower grades. Grading used to be done only at the mills which meant grain marketed though Co-op Lesotho was

not graded at the depots but at the mills. The major problem with this was that Co-op Lesotho used to pay the average prices for the grades in order not to incur losses. This worked to the disadvantage of the farmers producing better grades. This meant that farmers producing the lower grades were paid same prices as farmers producing the better grades. Usually RSA maize and wheat boards run grading courses for Co-op Lesotho and the mills personnel.

The major problem with the grain grading system in Lesotho is that grades are not gazetted. Most if not all, farmers have no idea what qualities should different grades have. In the 1988/89 marketing season many farmers' maize was not accepted by the mills because the moisture content was too high (Motamo). Most farmers did not understand why their maize was said to be unacceptable. The Agricultural Marketing (Preparation of Maize for Human Consumption or Processing for Human consumption) Regulations 1975 do not comprehensively spell out the qualities needed for the different grades. Another problem with the grain grading system is that there is no final tribunal to settle disputes arising from the grading system. If a farmer's maize is not accepted by the mill or a farmer claims his maize is WM1 while the mill claims it is WM3 there is nowhere such a dispute can be settled. This problem can be solved by having the Department of Economics and Marketing of MOA or the Department of Crops of MOA settle such disputes. A number of MOA personnel have been trained in grain husbandry under the African Grain Management Program financed by the Australian Government. The plan is to have these personnel placed either in the Department of Economics and Marketing or the new organisation that will take over the activities of Co-op Lesotho (M.Molupe, Personal Communication, July 1989).

4.4.2 Timing of Producer Price Announcements

As previously indicated, maize and sorghum producer prices are announced in May which is just before the harvesting season while wheat prices are also announced just before harvest around October/November. The major disadvantage of announcing producer prices just before harvest is that it makes pre-production planning difficult. It may also lead to stockpiling by the mills, traders and consumers. The mills can import large quantities of grain (wheat and maize) just before producer price announcement and then store the grain. After the grain is stored it is milled and sold at the new prices. In this way the mills are in a position to earn above normal profits. The possible stockpiling of grain by the mills can also work to the disadvantage of Basotho farmers because after stockpiling the mills silos are full and the mills are not in a position to purchase the domestic grain. Sometimes the stockpiling of grain by the mills can work to the advantage of consumers and this occurs when the mills and traders sell grain products at the old prices after the new price announcements. Prior to 1986 when LMC was the only maize mill in the country, it used to adhere to prices as they were announced. With the establishment of LMM, the mills tend not to adhere to prices as they are announced. For example in 1988/89 marketing year, new maize meal prices were announced in June 1988 but the mills kept on selling at the old prices until around September/October. Evidence suggests that the maize mills do not stockpile and this is mainly because of inadequate storage facilities and cash flow problems (Table 4.11). Traders can also stockpile grain products just before price announcements. Millers claim that the demand for maize meal usually increases about 40 percent above the monthly average during April. They explain that this increase is due to traders and consumers buying in anticipation of the price increase the following month (May).

It seems Lesotho has no alternative with regards to the timing of producer prices announcement as long as it still relies on RSA for food grain supplies. Malawi has had pre-season price announcements for several years while Swaziland started in the 1988/89 season. It can be argued that Malawi has not experienced problems because it is self-sufficient in grains but it will be interesting for both Botswana and Lesotho to see consequences in Swaziland.

Table 4.11: Maize Imports by Mills (Tonnes)

Month	1986	1987	1988	1989	1990
Jan.	6932	10765	8938	11496	14119
Feb.	6368	8056	11861	16253	16935
March	6687	12756	9652	12611	10695
April	9455	10998	10985	11905	9995
May	6632	11323	11672	6970	17735
June	4120	10356	10148	11326	11374
July	1870	6042	3385	11624	
Aug.	-	1770	2932	1335	
Sept.	625	3337	-	7889	
Oct.	4750	12703	3585	12400	
Nov.	6460	13716	3500	22655	
Dec.	9878	9973	8002	11990	
Total	63777	111795	86460	138460	

Source: Department of Economics and Marketing, MOA.

4.5 Equity in Marketing

4.5.1 Producer Equity

The policy of the Lesotho Government is to have equitable producer prices. Prior to 1982/83, producers were not allowed to deliver grain to the mills but to Co-op Lesotho which then delivered the grain to the mills. Under this system producers received equal prices all over the country. This system on the one hand worked to the advantage of producers located long

distances from the mills. On the other hand it worked to the disadvantage of producers located near the mills because they could have delivered grain directly to the mills and obtained better prices. Thus producers located near the mills subsidized producers located far from the mills. The system of having uniform producer prices throughout the country although having equitable income distribution is not price efficient. It is not price efficient because transportation costs over space are not reflected.

In 1982/83, FSSP was in a position to market large quantities of maize which Co-op Lesotho could not handle. It should be noted that hitherto Co-op Lesotho had been handling little quantities of maize. Because Co-op Lesotho could not handle FSSP maize it was decided that FSSP should be allowed to deliver the maize directly to the mills. Individual farmers were also allowed to market maize directly to the mills. This has led to most farmers located in the northern and central Lowlands and Foothills of the country marketing maize directly to the mills as the maize mills are located in these regions while farmers located in the southern Lowlands, the southern Foothills and Mountains tend to market through Co-op Lesotho.

Under the present marketing system (i.e. after 1982/83) whereby producers can market grain directly to the mills, price variations amongst producers exist. Producers marketing directly to the mills receive relatively higher prices than producers marketing through Co-op Lesotho. This is because producers marketing through co-op Lesotho receive the millgate price less Co-op Lesotho handling charges. Producers marketing directly to the mills receive the millgate price less their transportation and handling costs which are in most instances less than Co-op Lesotho's. Most farmers claim that Co-op Lesotho handling charges are too high such that it is now common for farmers to come together and hire private trucks to deliver maize/wheat directly to the mills.

4.5.2 Consumer Equity

After the grain is milled it is sold to wholesalers who in turn sell to retailers. Retailers then sell to consumers. It is difficult to determine the retail price of grain products. For example one tonne of maize grain can be milled into different types of maize meal or maize samp. In Lesotho maize is milled into special sifted, sifted and unsifted while wheat is milled into cake flour, bread flour and wheat meal. In order to estimate the millgate prices of maize meal we consider millers margin. From the millgate prices we have wholesale and retail prices. A millers margin shows how much it costs to mill one tonne of maize. Wheat millers margins were difficult to obtain so only maize millers margins are presented below.

Table 4.12: Maize Millers Margin (M/tonne)

Year	Margin
1980/81	-
1981/82	-
1982/83	48.50
1983/84	53.20
1984/85	68.13
1985/86	47.14
1986/87	90.24
1987/88	125.50
1988/89	139.75
1989/90	173.94

Source : Department of Economics and Marketing, MOA

Before the Lesotho agricultural marketing system became regulated/controlled, free market grain products prices prevailed. The major retail price determinant seemed to have been transportation costs. This is because retail prices tended to increase with distance from the rail heads where the products were delivered and then transported into the country. In 1973, the retail prices of grain products began to be regulated. This was effected with the passing of the Agricultural Marketing (Price Control) Regulations 1973. Under these regulations,

maximum selling prices of wheat and maize products were gazetted. Section 3(1) of the regulations state that "no trader shall sell any controlled product at a price greater than the maximum price fixed for that product in the schedule hereto". Although traders were given an option of selling at prices below the maximum prices, most of them charged maximum gazetted prices. Those traders charging prices below the maximum prices did so because of competition from other traders.

For maize meal, traders were given a margin of 9 percent of the suppliers' prices as the retail margin. Traders were further allowed to charge one percent of the cost price per metric tonne per kilometre to cover transport costs. Retail grain sorghum prices followed the same pricing formula. In the early 1980's the maize meal and grain sorghum retail pricing formula was done away with. It was replaced by gazetting maximum millgate, wholesale and retail prices for wheat and maize products. Starting in 1987 the Ministry of Agriculture has been gazetting millgate prices only with wholesale and retail price gazetting being the responsibility of the Ministry of Trade and Industry.

The gazetting of maximum wheaten and maize products retail prices is to ensure that uniform prices prevail over the country. In practice retail prices are not uniform. Traders do not follow the maximum gazetted retail prices. Most traders charge higher prices than the gazetted. The Ministry of Agriculture's Marketing Inspectors are supposed to monitor gazetted prices. If traders do not adhere to the gazetted prices, Marketing Inspectors can prosecute them. Marketing Inspectors have not been monitoring trader adherence to gazetted prices because they claim they do not have co-operation of the Police who are the ones empowered to prosecute traders charging prices that are higher than the gazetted ones.

4.6 Storage Capacity

4.6.1 On-farm Storage

At the farm level, grain was traditionally stored in grass baskets (Lisiu) which are no longer in use. Nowadays farmers store grain in bags or in the open covered with tarpaulins. These methods of storing grain result in significant losses caused by rodents, insects and weather elements.

The Farm Structures Project financed by the Swedish International Development Assistance (SIDA) through FAO has been holding demonstrations to teach farmers how to build small stone/brick silos of 15-50 bag capacity which greatly reduces grain storage losses (B. Sherriff and M. Mofolo, Personal Communication, 14th August, 1989). In order to avoid storage losses, farmers usually market the surplus grain immediately after harvest. Since producer prices are the same throughout the marketing season and there is therefore no incentive for farmers to store grain, deliveries to the mills and Co-op Lesotho tend to be concentrated in a relatively short period. This overtaxes the buying and storage facilities of the mills and Co-op Lesotho. It is common to see farmers being turned away with grain because the mills' silos are full. In the past farmers used to sell grain to traders immediately after harvest and purchase it back later. This meant traders acted as storage agents for farmers. This practice is one of the major causes of traders being barred from handling farm produce. The complaint was that traders were selling back the grain to farmers at prices which more than covered storage and other costs. Tarbox (1979) findings are otherwise.

4.6.2 Mills' Storage

The formal storage capacity for maize in Lesotho is approximately 36,000 tonnes while wheat storage capacity is 30,000 tonnes. The

LMM is capable of storing significant quantities of maize as its silos can hold 30,000 tonnes. This means LMM can store all the commercially marketed maize produced within the country. Even though LMM silos can store all the commercially marketed maize in Lesotho, storage problems are prevalent. Farmers delivering maize to Maseru prefer MRM to LMM. Even if farmers are advised that they should deliver to LMM because MRM silos are full, they would rather wait several days for MRM to start purchasing maize. The major reason being conditions of payment. Farmers claim that MRM pays expeditiously while with LMM they have to wait several days for payment. It can be argued that the practices by RSA marketing boards to charge the same prices throughout the year makes the mills in Lesotho not to invest in storage facilities. Indications are that at present RSA marketing boards are contemplating on charging for storage which means garin prices will not be uniform throughout a marketing season.

4.6.3 Grain Spoilage

Grain spoilage can significantly reduce food and income available to farmers. Usually grain losses occur during the processes of harvesting, threshing, storage and processing. In Lesotho grain is harvested by hand (labour) and mechanical harvesters (e.g. combine harvesters). Whether harvesting by hand or mechanical harvesters some grain will be left on the stalks (e.g. maize). Grain threshing methods in use include hand, animals and mechanical threshers. Shelling maize by hand is the most efficient method as little grain is damaged but the process is laborious and tedious especially when large quantities are to be shelled. The traditional methods of threshing maize and sorghum is by beating with sticks while wheat is threshed using animals. The beating of grain with sticks and animals trampling on grain usually result in some kernels being broken and thrown out of the threshing ground. Winnowing also results in grain losses as some of the grain is lost. Mechanical threshers are supposed to separate and winnow the grain but some are not good at winnowing such that rewinnowing by hand is usually necessary. Thus

whatever method of harvesting and threshing is used, grain losses occur with some methods being more efficient than others.

Grain must be dried before storage to prevent deterioration, inhibit germination and limit the growth of fungi and bacteria. In most cases grain in Lesotho is harvested mature and dry but there are years the grain matures during wet periods and this necessitates rapid drying to prevent grain spoilage. If grain is delivered to the mills not dry enough, the mills incur costs of drying the grain. The common method of drying grain in Lesotho is sun drying. When drying grain, care must be taken to ensure that the grain is not over-dried. Over-dried grain is subject to breakage, discolouration and reduced nutritional value.

At present harvest and post-harvest grain losses are not known in Lesotho. There have been claims that harvest and post-harvest losses are significantly high in Lesotho. For instance it has been estimated that the post-harvest losses in Lesotho are 15 percent for maize and sorghum and 20 percent for wheat (FAO, 1986). The basis for these estimates is not known and have not been investigated. In order to ascertain the harvest and post-harvest grain losses and ways for improvement, research on this should be undertaken. The FAO undertook a study to assess the post-harvest food losses in Swaziland in 1981 and 1982 (FAO, 1984). The study's results indicate that pre and post-harvest maize losses in Swaziland in 1981 was 22.75 percent and in 1982 (7-9 months) was 16.15 percent. A similar study should be undertaken in Lesotho.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

The major grains produced in Lesotho are maize, wheat and sorghum. In the late 1800s, grain production was the most important source of income to Basotho. Most of the grain produced in Lesotho was exported to the mining centres of RSA. By the end of the 19th century Lesotho grain production experienced a decline which was in part caused by the introduction of taxes to force Basotho to work in RSA mines, the imposition of duties on grain from Lesotho to RSA and stiff competition offered to Lesotho grain by the importation of the cheap grain from the highly capitalized agriculture of the American midwest and Australia. Lesotho grain production declined such that by the early 1930s, Lesotho become a net importer of grains, notably maize. This situation has continued to the present time.

The Lesotho grain marketing system has evolved from being dominated by private traders to the present whereby parastatals are dominating. From the 1800s, private traders sold consumer goods and purchased agricultural produce from farmers. Traders continued to be the dominant grain marketing agents until marketing co-operatives were first established in the late 1940s. Marketing co-operatives were primarily established because producers felt that traders were costing too much or that the services which they provided were inadequate. Farmers thought by eliminating the middlemen (traders), marketing costs could be lowered which would result in a gain to them in the form of higher prices. The major activities of co-operatives was retail trading in consumer goods and the supply of agricultural inputs rather than purchasing farm produce. By the early 1960s the co-operative movement collapsed. It collapsed because of problems within the movement which included mismanagement, overpayment of

staff and misappropriation of funds. Co-operatives also collapsed because of restrictive practices by traders on both farmers and co-operatives.

After independence in 1966, there was an apparent shift in government policy with regard to agricultural marketing in the country. Whereas the colonial government tended to be in favour of private traders, the new government became inclined towards the promotion of public institutions in marketing agricultural produce in the country. In 1973, the Produce Marketing Corporation (PMC) was established. PMC handled grains and their products, pulses, fruits and vegetables. It operated through a network of licensed traders who acted as its agents. PMC folded in 1979 because of several problems which included lack of skilled management, no rational pricing structure for crop purchases and lower volumes of marketed throughput than planned.

After PMC collapsed in 1979 its operations were taken over by Co-op Lesotho which is still in operation. Even though Co-op Lesotho is registered as a co-operative, the government's share capital in the organization makes it a parastatal.

The present Lesotho grain marketing system is dominated by Co-op Lesotho and the mills. Maize marketing channels in Lesotho consist of farmers, area-based projects, maize mills, Co-op Lesotho, traders, wholesalers and retailers.

The purpose of the study was to analyse the performance of the Lesotho grain marketing system. The purpose was achieved by firstly giving a broad perspective of the development of the Lesotho grain production and marketing system. The second step was to develop performance measures applicable to the Lesotho grain marketing system while the last step has to evaluate if the Lesotho grain marketing system met the list of performance measures developed.

Several conclusions emerge from the study. Although the study

was concerned with grain marketing, grain production was also examined as the two are interlinked. Evidence suggests that the major problem facing Lesotho with regards to food grain supply is low and declining production. The reasons for the low and declining production are several but it seems the major cause is low yields. As a result of the low food grain production Lesotho is increasingly depending on commercial and donated imports.

Evidence suggests that low quantities of grain are marketed through formal marketing channels. Estimates are that between 10-20 percent of the grain production in the country goes through formal marketing channels. This reflects the subsistence nature of farming in Lesotho. The low marketed quantities have efficiency implications for the marketing outlets as they do not enjoy economies of scale. The often heard complaint in Lesotho is that Co-op Lesotho is "inefficient". It can be argued that Co-op Lesotho is "inefficient" because it handles very low quantities of grain such that its marketing costs per unit of produce handled are relatively high.

Evidence also suggests that since the early 1970s the number of marketing outlets has declined as a result of government policy of promoting parastatals in the agricultural marketing system and restricting private traders from participating in agricultural marketing. The effect of the few marketing outlets on production are not really known but it can be argued that since most of the grain is marketed through informal marketing cchannels, the effect of reduced marketing outlets is minimal.

One other major feature of the Lesotho grain marketing system is that it is very much dependent on RSA grain marketing system. In addition to commercial imports, Lesotho is dependent on RSA in pricing and grading. This dependency is mainly caused by the geo-political situation of Lesotho to the RSA. In addition Lesotho is a member of SACU and RMA and as such it is to her advantage to deal with RSA.

The other feature of the Lesotho grain marketing system is that informal grain prices tend to be higher than formal grain prices with the gap narrowing in recent times. The higher informal market prices reflect that demand exceeds supply.

The policy of the Lesotho government is to have equitable producer and consumer prices. Prior to 1982/83, producers received equal prices irrespective of their location. After 1982/83, producer prices differ by location. Producers marketing direct to the mills get relatively higher prices than producers located long distances from the mills. Consumer prices are supposed to be uniform throughout the country but this not so in practice. In practice traders do not follow the maximum gazetted retail prices but charge higher prices.

Grain storage at the farm level is usually in bags or in the open covered with tarpaulins. These methods of storing grain result in significant losses. In order to avoid storage losses farmers usually market the surplus grain immediately after harvest and this overtaxes the buying and storage facilities of Co-op Lesotho and the mills. The formal storage capacity in place in the country is capable of storing all the commercially marketed grain in the country. In spite of this, storage problems still exists.

Indications are that harvest and post-harvest grain losses are relatively high in Lesotho. This has serious implications for the availability of grain for consumption.

5.2. RECOMMENDATIONS

On the basis of the analysis presented in this report, the following recommendations are made :

(i) Private traders and consumers should be represented in the Agricultural Pricing Committee.

(ii) The Department Economics and Marketing should conduct

independent cost of production studies.

(iii) The gazetting of millgate, wholesale and retail prices should continue with much emphasis being on the inspection of traders adherence to gazetted prices.

(iv) Grain grading regulations should be gazetted and an educational programme be undertaken to explain the regulations.

(v) Private traders should be allowed to be involved in the grain marketing system as well in agricultural inputs. This will increase the number of marketing outlets as well as providing competition to Co-op Lesotho.

(vi) The maize mills and wheat mill storage capacities should be expanded especially as RSA might start charging for storage costs in the near future.

(vii) Studies should be undertaken on harvest and post-harvest grain losses and ways to improve them.

(viii) Government's role in grain marketing should be concentrated more on regulating, monitoring and facilitating the efficient operation of the marketing system.

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Appendix A

Lesotho Exports of Wheat, Maize and Sorghum (1873-1972)

Year	Wheat		Maize		Sorghum
	Quantity ('000lbs)	Value()	Quantity ('000lbs)	Value()	Quantity ('000lbs)
1873		(Total of 100,000 bags)			
1891	19,026		13,265		
1892	13,256		4,037		
1893	25,748	63,416	13,156	17,452	953
1894	25,964	44,426	13,620	16,265	1,305
1895	30,215	74,475	16,486	33,857	736
1896	9,496	45,111	19,995	75,522	NA
1897	11,790	52,599	12,915	42,424	949
1898	3,997	17,450	19,870	32,590	2,948
1899	766	3,074	2,674	9,319	NA
1900	1,481	4,909	4,137	11,450	NA
1901	4,981	14,845	9,983	29,104	NA
1902	7,124	19,342	17,089	46,621	1,699
1903	23,255	81,847	12,158	55,014	5,171
1904	3,228	13,765	2,462	10,106	356
1905	2,440	9,693	16,290	33,883	NA
1906	9,116	3,224	13,081	26,083	NA
1907	3,679	12,724	36,117	73,468	NA
1908	8,898	31,420	11,509	21,269	2,656
1909	12,511	48,979	36,431	75,201	1,382
1910-1915			NA		
1916	14,101	99,302	36,250	90,835	14,460
1917	13,558	105,552	20,233	57,954	4,289
1918	25,421	199,169	8,862	27,399	833
1919	51,231	357,278	10,427	44,911	6,467
1920	17,739	218,386	5,751	21,352	3,824
1921	22,077	152,762	8,696	16,992	NA
1922	25,641	138,995	4,063	11,188	NA
1923	12,829	71,791	17,432	41,409	10,514
1924	6,172	32,492	1,953	6,939	2,926
1925	16,720	105,558	14,212	34,553	NA
1926	20,680	111,694	1,112	3,092	NA
1927	20,714	115,455	7,502	17,663	4,412
1928	23,656	131,414	20,155	59,295	6,194
1929	14,421	64,408	17,481	42,144	7,411
1930	26,262	105,330	1,212	2,169	806
1931	20,741	90,888	59	168	2,049
1932	39,375	168,015	382	765	1,300
1933	11,164	45,102	21	71	-
1934	17,909	-	335	-	15
1935	36,218	-	1,621	-	37
1936	19,250	-	79	-	131

Year	Wheat		Maize		Sorghum
	Quantity ('000lbs)	Value()	Quantity ('000lbs)	Value()	Quantity ('000lbs)
1937	34,288	-	972	-	504
1938	30,555	-	5,239	-	10,554
1939-45			NA		
1946	25	-	106		248
1947	22,755	-	7,691	-	16,193
1948	18,106	-	6,929	-	17,278
1949	39,378	-	4,078	-	2,443
1950	9,222	-	-	-	7,513
1951	5,016	-	-	-	4,354
1952	12,069	-	-	-	17,997
1953	10,935	-	-	-	11,590
1954	8,706	-	-	-	3,474
1955	16,410	-	-	-	2,034
1956	18,328	-	-	-	1,129
1957	12,145	-	-	-	2,001
1958	3,502	-	-	-	2,373
1959	10,486	-	-	-	136
1960	18,776	-	-	-	1,165
1961	12,325	-	-	-	318
1962	3,481	-	-	-	-
1963	11,449	-	-	-	-
1964	24,580	-	-	-	-
1965	6,600	-	-	-	-
1966	1,134	-	-	-	-
1967	4,417	-	-	-	-
1968	21,893	-	-	-	-
1969	30,024	-	-	-	-
1970	4,671	-	-	-	-
1971	3,672	-	-	-	-
1972	5,560	-	-	-	-

Source: Pim(1935), Basutoland Government, Basutoland Department of Agriculture, Stutley(1960), Basutoland National Council(1964) and Eldredge(1986)

Appendix B

Lesotho Imports of Wheat, Maize and Sorghum(1919-1971)

Year	Wheat & Wheatmeal		Maize & Maizemeal		Sorghum	
	Quantity ('000lbs)	Value()	Quantity ('000lbs)	Value()	Quantity ('000lbs)	Value()
1919	403	4,351	5,085	26,004	2,256	11,635
1920	325	4,996	8,305	54,445	3,068	23,089
1921	257	2,932	10,390	36,104	2,502	10,360
1922	297	2,644	7,317	25,176	2,625	10,677
1923	426	3,762	2,005	8,242	580	2,552
1924	933	7,582	16,458	69,928	6,574	28,963
1925	669	6,458	7,885	32,785	6,988	27,475
1926	948	8,395	11,178	39,607	5,051	19,766
1927	1,185	9,506	9,320	34,155	1,690	9,631
1928	1,384	10,460	3,059	10,925	680	3,124
1929	1,083	8,837	5,010	17,398	863	3,030
1930	1,036	6,760	12,283	30,318	2,166	7,090
1931	983	7,529	27,980	63,302	275	1,015
1932	779	6,386	19,144	41,880	386	1,291
1933	1,735	10,381	71,232	217.007	5,004	17,028
1934	2,010	14,770	27,756	97,105	15,610	47,956
1935	1,180	8,311	20,306	51,476	10,046	26,696
1936	1,316	8,446	41,547	145,728	4,704	22,868
1937	1,276	9,282	11,103	37,049	2,133	8,651
1938	1,617	12,852	6,603	18,988	444	1,820
1939	1,966	14,141	7,182	21,023	1,098	3,575
1940-44			NA			
1945	4,125	37,896	14,181	175,856	5,784	32,608
1946	5,628	51,084	34,951	227,701	1,292	17,326
1947	2,869	27,708	4,707	36,612	476	4,994
1948	2,742	25,836	1,638	9.903	390	3,010
1949	6,950	61,623	61,439	361,113	3,125	30,592
1950	6,863	61,393	12,661	73,751	2,220	20,689
1951	8,070	76,957	33,053	259,122	1,966	22,191
1952	9,908	110,802	30,945	276,535	1,415	16,251
1953	7,200	84,365	8,289	73,477	764	8,684
1954	6,363	89,597	10,151	99,146	1,131	11,445
1955	9,386	105,995	43,876	394,824	3,719	52,987
1956	7,013	92,242	26,497	251,720	2,875	31,201
1957	6,463	86,357	18,193	113,982	1,691	24,315
1958	7,707	98,622	22,086	193,118	1,219	17,122
1959	8,800	116,518	23,378	314,263	2,247	24,352
1960	8,496	116,037	46,260	462,602	584	15,842
1961	7,563	107,625	30,670	356,278	971	13,571
1962	8.434	116,118	3.424	534,336	2.327	33,822

Year	Wheat & Wheatmeal		Maize & Maizemeal		Sorghum	
	Quantity ('000lbs)	Value()	Quantity ('000lbs)	Value()	Quantity ('000lbs)	Value()
1963-1965			NA			
1966	-	-	64,679	-	-	
1967	-	-	44,634	-	-	-
1968	-	-	60,059	-	-	-
1969	-	-	70,194	-	-	-
1970	-	-	66,389	-	-	-
1971	-	-	48,046	-	-	-

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Source: Basutoland Department of Agriculture, Stutley(1960), Basutoland National Council(1964), and Bureau of Statistics